DISCOURSE

Klak. 76

Made in a Solemne Assembly of Nobles and Learned Men at *Montpellier* in *France*,

By Sr. *Kenelme Digby*, Knight, &c

Touching the Cure of WOUNDS by the *Powder of Smpathy*; With Instructions how to make the said Powder; whereby many other Secrets of Nature are unfolded.

Fœlix qui potuit Rerum *cognoscere* causas.

Rendered faithfully out of French into English

By *R. White*, *Gent.*

The third Edition corrected and augmented, with the addition of an Index.

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TO THE

Moſt Noble, and Heroick Gentleman, JOHN DIGBYE Eſq; at *Gothhurſt.*

SIR,

BY making this Dedicatory Addreſſe unto you, I may truly ſay 'tis done to the Renowned Author Himſelf; for beſides the ordinary relation of Father and Son betwixt you, there was never, I dare boldly ſay,

ſuch a perfect exact ſimilitude 'twixt any two ſince the World began. For you reſemble him, not onely in the outward Symmetry, in that goodly proportion, and comportments of your body; You are like him, not onely in Phyſiognomy of face, having the ſame ſpacious front, the ſame perſpicacious eyes, with other viſible parts ſo marvellouſly alike, but the tone of your voyce, the accent of your words, your very breath, and articulate ſounds are the ſame with his; inſomuch, that it being well obſerved, this admirable ſimilitude, or rather Identity, may be called one of the greateſt wonders of theſe times.

Now, Sir, this Reſemblance being ſo exact, through all the outward parts Capapee ; *It may be well preſumed, that you are alſo like him in the Idea's of your ſoul, and in the intern motions of your mind,*

mind, and consequently in his sublime speculations. Therefore I hope that neither the World will accuse me of Impertinence, *or your self of* presumption, *that I make this Dedication, and thereby stile my self,*

Highly Honored Sir,

Your most humble and
ready servant

R. WHITE.

An Extract of the Royall priviledge in France for printing the ſaid Diſcourſe.

BY the Grace, and priviledge of the King, given in *Paris* the one and twentieth of December one thouſand ſix hundred fifty ſeven, It is permitted to *John Ancelin* to cauſe to be printed, ſold, and uttered by what Bookſeller he ſhall think fit, a Book intitled, *A diſcourſe made in a famous* Aſſembly by *Cavalier Digby, touching* the cure of wounds by the Powder of *Sympathy*, &c. And this during the time, and ſpace of ten yeares,

with prohibition to all Booksellers and Printers to counterfeit, sell or utter the said Book without the consent and permission of the said *Ancelin*, or of those who shall derive a right from him, under the penalty of one thousand five hundred *Livers*, and of all expences, damages, and interests, as it is more amply contained within the Letters of the said Priviledge.

The said *Ancelin* hath transmitted the right of the said Priviledge to *Augustine Courbe* and *Peter Moet*, Merchants of Books in *Paris*, according to the Agreement betwixt them.

His Majesties Library is furnished with two Coppies accordingly.

AN.

An Information to the Knowing Reader.

THis *Exquiſite Philoſophicall Diſcourſe was made lately by that Renowned Knight Sir* Kenelme Digby, *in one of the moſt famous Academies of* France. *It contains a variety of many recondite and high myſteries of Nature, which are all here unmasked. And as all that great* Learned aſſembly, *compoſed of the choiceſt wits under that Clime, ſtood then aſtoniſhed at the profound ſpeculations of the Author,*

(which were delivered by way of Oration, and taken in short writing upon the place as 'twas uttered) so I believe it will work the same effect in any Judicious Soul, when he hath seriously perused it.

R. WHITE.

A DISCOURSE *TOUCHING* The Cure of *Wounds*, By the Powder of *Sympathie*.

My Lords,

I Believe you will remain all in one mind with me, that to penetrate, and know a Subject, it is neceſſary in the firſt place, to ſhew whether the thing be ſuch as it is ſuppoſed or imagined to be: For would not one unprofitably loſe both his time and labour, to buſie himſelf in looking after the cauſes of that which peradventure is but a Chimera, without any foundation of truth?

I remember to have read in a place in *Plutarch*, where he propoſeth this queſtion, Wherefore thoſe Horſes, who, while they are Colts, have been purſued by the Wolf, and ſaved themſelves by force of running, are more fleet then other Horſes? Whereunto he anſwers, That it may be that the ſcaring and affrightment which the Wolf gives unto the young beaſt, makes him try his utmoſt ſtrength to deliver himſelf from the danger that follows him at the heels, therefore the ſaid fright doth as it were unknit his joynts, and ſtretch his ſinews, and makes the Ligaments, and other parts of his body, the more ſupple to runne; inſomuch, that he reſents it all his life afterwards, and becomes a good Courſer: Or it may be, ſayes he, that thoſe Colts which are naturally ſwift, ſave themſelves by running away; whereas others, who are not ſo, are overtaken by the Wolf, and ſo become his prey: and ſo it is not becauſe they have eſcaped the Wolf, that they are the more fleet, but it is

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their naturall ſwiftneſſe which ſaves them. He affords alſo other reaſons, and at laſt concludes, that it may be the thing is not true. I find it not ſo fit (my Lords) to reply hereunto at a Table-diſcourſe, where the chief deſign of converſation is to paſſe away the time gently and pleaſantly, without medling with the ſeverity of ſtrong reaſonings, which ſhould hold the ſpirits in an high pitch of attention. But in ſo renowned an Aſſembly as this, where there are ſuch judicious Perſons, and ſo profoundly learned, and who upon this meeting expect from me that I pay them in ſolid reaſons; I ſhould be very ſory, that having done my uttermoſt to make it clear, how the Powder, which they commonly call the Powder of Sympathy, doth naturally, and without any Magick, cure wounds without touching them, yea, without ſeeing of the Patient; I ſay, I ſhould be very ſory that it ſhould be doubted, Whether ſuch a cure may effectually be performed or no.

In

In matter of fact, the determination of existence, and truth of a thing, depends upon the report which our senses make us. This businesse is of that nature; for they who have seen the effects, and had experi nce thereof, and have been careful to examine all necessary circumstances, and satisfied themselves afterwards, that there is no imposture in the thing, do nothing doubt but that it is real, and true. But they who have not seen such experiences, ought to referre themselves to the Narrations, and authority of such, who have seen such things; I could produce divers, whereof I was an ocular witness, nay, *Quorum pars magna fui*: But as a certain, and an averred example in the affirmative, is convincing to determine the possibility, and truth of a matter which is doubtful: I shall content my self, because I would not trespass too much upon your patience at this time, to make instance in one only; but it shall be one of the cleareſt, the most perspicuous, publick, & the most averred

red that can be, not onely for the remarkable circumſtances thereof, but alſo for the hands, which were above the *Vulgar*, through which the whole buſineſs paſſed. For the cure of a very ſore hurt was perfected by this Powder of Sympathie, upon *a perſon* that is famous, as well for his Learning, as for his ſeverall imployments. All the circumſtances were examined, and ſounded to the bottom, by one of the greateſt, and moſt knowing Kings of his time, *viz.* King *James*, of *England*, who had a particular talent, and marvellous ſagacity, to diſcuſs natural things, and penetrate them to the very bottom; as alſo by his Son, the late King *Charles*, and the late Duke of *Buckingham*, their prime Miniſter. And in fine, all was regiſtred among the obſervations of the great *Chancelor Bacon*, to be added by way of Appendix, unto his Naturall Hiſtory. And I believe, Sirs, when you ſhall have underſtood this Hiſtory, you will not accuſe me of vanity, if I attribute unto

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my ſelf the introducing into this Quarter of the World this way of curing. Now the buſineſs was thus.

Mr. *James Howel*, (well known in *France*, by his Writings, and particularly by his *Dendrologia*, tranſlated into French by *Monſieur Baudoin*) coming by chance as two of his beſt friends were fighting in Duel, he did his endeavour to part them, and putting himſelf between them, ſeized with his left hand upon the hilt of the ſword of one of the Combatants, while with his right hand he laid hold of the blade of the other: they being tranſported with fury one againſt the other, ſtrugled to rid themſelves of the hindrance their friend made that they ſhould not kill one another; and one of them roughly drawing the blade of his ſword, cuts to the very bone the nerves, and muſcles, and tendons of Mr. *Howels* hand; and then the other diſingaging his hilts, gave a croſſe blow on his adverſaries head, which glanced towards his friend, who heaving up his ſore hand to ſave the blow, he

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was wounded on the back of his hand, as he had been before within. It ſeems ſome ſtrange Conſtellation reigned then againſt him, that he ſhould loſe ſo much blood by parting two ſuch dear friends, who had they been themſelves, would have hazarded both their lives to have preſerved his: but this unvoluntary effuſion of bloud by them, prevented that which they ſhould have drawn one from the other: For they ſeeing Mr. *Howels* face beſmeared with blood, by heaving up his wounded hand, they both ran to embrace him; and having ſearched his hurts, they bound up his hand with one of his garters, to cloſe the veines which were cut, and bled abundantly. They brought him home, and ſent for a Surgeon. But this being heard at Court, the King ſent one of his own Surgeons, for his Majeſty much affected the ſaid Mr. *Howel*.

It was my chance to be lodged hard by him; and four or five dayes after, as I was making my ſelf ready, he came to my Houſe, and prayed

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me to view his wounds, for I understand, said he, that you have extraordinary remedies upon such occasions, and my Surgeons apprehend some fear, that it may grow to a Gangrene, and so the hand must be cut off. In effect, his countenance discovered that he was in much pain, which he said was unsupportable, in regard of the extream inflammation: I told him that I would willingly serve him, but if haply he knew the manner how I would cure him, without touching or seeing him, it may be he would not expose himself to my manner of curing, because he would think it peradventure either ineffectual, or superstitious: he replied, That the wonderful things which many have related unto me, of your way of curing, makes me nothing doubt at all of its efficacy; and all that I have to say unto you, is comprehended in the *Spanish* Proverb, *Hagase el milagro, y hagalo Mahoma*, Let the miracle be done though *Mahomet* do it.

I asked him then for any thing that had the blood upon it, ſo he preſently ſent for his Garter, wherewith his hand was firſt bound: and having called for a Baſon of water, as if I would waſh my hands; I took a handfull of Powder of Vitrol, which I had in my ſtudy, and preſently diſſolved it. As ſoon as the bloody garter was brought me, I put it within the Baſon, obſerving in the interim what Mr. *Howel* did, who ſtood talking with a Gentleman in a corner of my Chamber, not regarding at all what I was doing: but he ſtarted ſuddenly, as if he had found ſome ſtrange alteration in himſelf; I asked him what he ailed? I know not what ailes me, but I find that I feel no more pain, methinks that a pleaſing kind of freſhneſſe, as it were a wet cold Napkin did ſpread over my hand, which hath taken away the inflamation that tormented me before; I replyed, ſince that you feel already ſo good an effect of my medicament, I adviſe you to caſt away all your playſters, onely

onely keep the wound clean, and in a moderate temper twixt heat and cold. This was presently reported to the Duke of *Buckingham*, and a little after to the King, who were both very curious to know the issue of the businesse, which was, that after dinner I took the garter out of the water, and put it to dry before a great fire; it was scarce dry, but Mr. *Howels* servant came running, and told me, that his Master felt as much burning as ever he had done, if not more, for the heat was such, as if his hand were twixt coales of fire: I answered, that although that had happened at present, yet he should find ease in a short time; for I knew the reason of this new accident, and I would provide accordingly, for his Master should be free from that inflammation, it may be, before he could possibly return unto him: but in case he found no ease, I wished him to come presently back again, otherwise, he might forbear coming. Thereupon he went, and at the instant I did put again the garter into

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the water; thereupon he found his Maſter without any pain at all. To be brief, there was no ſenſe of pain afterward; but within five or ſix dayes the wounds were cicatrized, and entirely healed. King *James* required a punctuall information of what had paſſed touching this cure: and after it was done and perfected, his Majeſty would needs know of me how it was done, having drolled with me firſt (which he could do with a very good grace) about a Magician and a Sorcerer; I anſwered, That I ſhould be alwayes ready to performe what his Majeſty ſhould command; but I moſt humbly deſired him, before I ſhould paſſe further, to tell him what the Author, of whom I had the Secret, ſaid to the great Duke of *Tuſcany*, upon the like occaſion. It was a religious *Carmelite*, that came from the *Indies* and *Perſia* to *Florence*, he had alſo been at *China*, who having done many marvellous cures with his powder, after his arrivall to *Tuſcany*, the Duke ſaid he would be very glad to learn it of him: It was the father of

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the Great Duke who governs now. The *Carmelite* answered him, That it was a secret which he had learnt in the oriental parts, and he thought there was not any who knew it in *Europe* but himself, and that it deserved not to be divulged, which could not be done, if his Highness would meddle with the practise of it, because he was not likely to do it with his own hands, but must trust a Surgeon, or some other servant, so that in a short time divers others would come to know it as well as himself. But a few moneths after I had opportunity to do an important courtesie to the said Fryer, which induced him to discover unto me his secret, and the same year he returned to *Persia*; insomuch, that now there is no other knows this secret in Europe but my self: The King replied, That he needed not apprehend any fear that he would discover, for he would not trust any body in the World to make experience of his secret, but he would do it with his own hands, therefore he would have some of the Powder; which I delivered, instructing

ſtructing him in all the circumſtances. Whereupon his Majeſty made ſundry proofs, whence he received ſingular ſatisfaction.

In the interim, Doctor *Mayerne*, his firſt Phyſitian watched to diſcover what was done by this ſecret, and at laſt he came to know that the King made uſe of Vitriol. Afterwards he accoſted me, ſaying, he durſt not demand of me my ſecret, becauſe I made ſome difficulty to diſcover it to the King himſelf. But having learnt with what matter it was to be done, he hoped that I would communicate unto him all the circumſtances how it is to be uſed; I anſwered him, That if he had asked me before, I would have frankly told him all, for in his hands there was no feare that ſuch a ſecret ſhould be proſtituted, and ſo I told him all. A little after the Doctor went to *France*, to ſee ſome fair Territories that he had purchaſed near *Geneva*, which was the Barony of *Aubonne*. In this voyage he went to ſee the Duke of *Mayerne*, who had been a long time

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his friend and protector, and he taught him this secret, whereof the Duke made many Experiments, which if any other but a Prince had done, it may be they had passed for effects of Magick and Enchantments.

After the Dukes death, who was killed at the siege of *Montauban*, his Surgeon who waited upon him in doing cures, sold this secret to divers Persons of Quality, who gave him considerable summes for it, so that he became very rich thereby. The thing being fallen thus into many hands, remained not long in terms of a Secret, but by degrees it came to be so divulged; that now there is scarce any Country-Barber but knows it.

Behold now, Sirs, the Genealogie of the Powder of Sympathy in this part of the World, with a notable History of a cure performed by it. It is time now to come to the discussion, which is, to know how it is made. It must be avowed that it is a marvellous thing, that the hurt of a wounded

wounded perſon ſhould be cured by the application of a remedy put to a rag of cloth, or a weapon, at a great diſtance. And it is not to be doubted, if after a long and profound ſpeculation of all the œconomy and concatenation of naturall Cauſes, which may be adjudged capable to produce ſuch effects, one may fall at laſt upon the true cauſes which muſt have ſubtill reſorts and means to act. Hitherto they have been wrapped up in darkneſſe, and adjudged ſo inacceſſible, that they who have undertaken to ſpeak or write of them, (at leaſt thoſe whom I ſaw) have been contented to ſpeak of ſome ingenious gentileneſſe, without diving into the bottom, endeavouring rather to ſhew the vivacity of their ſpirit, and the force of their eloquence, than to ſatisfie their Readers and Auditors how the thing is really to be done. They would have us take for ready money ſome terms which we understand not, nor know what they ſignifie. They would pay us with conveniences, with reſemblances, with

Sympathies, with Magnetical virtues, and such terms, without explicating what these terms mean. They think they have done enough, if they feebly perswade any body that the businesse may be performed by a naturall way, without having any recourse to the intervention of Dœmons and spirits: but they pretend not in any sort to have found out the convincing reasons, to demonstrate how the thing is done.

Sirs, If I did not hope to gain otherwise upon your spirits; I say, that if I did not believe, that I should be able to perswade you otherwise than by words, I would not have undertaken this enterprise: I know too well

——— *Quid ferre recusent,*
Quid valeant humeri. ———

such a design requires a great fire, and vivacity of conceptions, volubility of tongue, aptnesse of expressions to insinuate as it were by surprisall, that which one cannot carry away by a firme foot, and by cold reasons though solid. A Discourse of this nature ought not to attend a stran-

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ger, who finds himſelf obliged to diſplay his ſenſe in a language wherein he can hardly expreſſe his ordinary conceptions. Nevertheleſs, theſe conſiderations ſhall not deterre me from engaging my ſelf in an enterpriſe, which may ſeem to ſome much more difficult than that which I am now to performe, *viz.* to make good convincing proofs, that this Sympatheticall cure may be done naturally, and to ſhew before your eyes, and make you touch with your finger how it may be done. You know that *perſwaſions* are made by ingenious *arguments*, which being expreſſed with a good grace, do rather tickle the imagination, than ſatisfie the underſtanding: But *Demonſtrations* are built upon certain and approved principles, and though they be but roughly pronounced, yet they convince and draw after them neceſſary concluſions. They proceed as a ſtrong Engine faſtned to a gate to batter it down, or as a plate of metall to imprint the mark of the money, at every turn that

truth makes, ſhe approches but little, and as it were inſenſibly, and makes not much noiſe, and there is no ſuch great force required to turn her; but her ſtrength, though it be ſlow, is ſo invincible, that at the end, ſhe breaks down the gate, and makes a deep impreſſion on the piece of gold or ſilver: whereas the ſtrokes of hammers, or bars, (whereunto may be compared the witty diſcourſes, and flouriſhed conceptions of ingenious wits) require the armes of a Giant, makes a great noiſe, and at the end produces but little effect.

To enter then into the matter; I will, according to the method of Geometricall Demonſtrations, lay ſix or ſeven Principles, as foundation-ſtones, whereon I will erect my ſtructure. But I will lay them ſo well, and ſo firmly, that there will be no great difficulty to grant them. Theſe Principles ſhall be like the wheels of *Archimedes*, by the advantage whereof a child might be capable to hale aſhore the biggeſt *Carack* of King *Hieron*, which an hundred pair of

of Oxen, with all the Ropes and Cables of his *Arſenal*, were not able to ſtir: ſo by the ſtrength of theſe Principles I hope to waft my concluſions to a ſafe Port.

The firſt Principle ſhall be, That the whole Orb or Sphere of the Aire is filled with light. If it were needfull to prove in this point, that the Light is a materiall and corporall ſubſtance, and not an imaginary and incomprehenſible quality, as many Schoolmen averre, I could do it evidently enough; but I have done this in another Treatiſe, which hath been publiſhed not long ſince. And it is no new opinion; for many of the moſt eſteemed Philoſophers among the Ancients have advanced it; yea, the Great Saint *Auguſtin* in his Third Epiſtle to *Voluſian* doth witneſſe it to be his own opinion. But touching our preſent buſineſſe, whether the light be the one or the other, it matters not, 'tis enough to explicate her courſe, and the journies ſhe makes, whereunto our ſenſes bear witneſſe. 'Tis clear, that iſſu-

ing continually out of her ſource, which is the Sun, and lancing herſelf by a marvellous celerity on all ſides by ſtreight lines, there where ſhe meets any obſtacles in her way, by the oppoſition of ſome hard, or opaque body, ſhe reflects, and leaping thence *ad angulos æquales*, ſhe takes again her courſe by a ſtreight line, untill ſhe bandies ſome other ſide upon another ſolid body, and ſo ſhe continueth to make new boundings here and there; untill at the end, being chaſed on all ſides by the bodies which oppoſe her in her paſſage, ſhe is tired, and ſo extinguiſheth. In the like manner we ſee a Ball in a Tenis-Court, being ſtruck by a ſtrong arme againſt the walls, leaps to the oppoſite ſide, that ſometimes ſhe makes the circuit of the whole Court, and finiſheth her motion near the place where ſhe was firſt ſtruck. Our very eyes are witneſſes of this progreſſe of the light, when by way of reflection ſhe illuminates ſome obſcure place, whether ſhe cannot directly arrive; Or when iſſuing immediatly

mediatly from the Sun, and beating upon the Moon, or ſome other of the Planets, the rayes which cannot find entrance there, bound upon our earth, otherwiſe we ſhould not ſee them; and there ſhe is reflected, broken and bruiſed by ſo many bodies, as ſhe meets in her diverſity of reflections.

The ſecond Principle ſhall be, that the light glancing ſo upon ſome body, the rayes which enter no further, and which rebound upon the ſuperficies of the body, looſen themſelves, and carry with them ſome ſmall particles or atomes; juſt as the ball, whereof we have ſpoken, would carry with it ſome of the moiſture of the wall, againſt which ſhe is banded, if the plaſter thereof were alſo moiſt, and as in effect, ſhe carried away ſome tincture of the black, wherewith the walls are coloured. The reaſon whereof is, that the light, that ſubtill, and rarified fire, coming with ſuch an imperceptible haſte, for her darts are within our eyes, as ſoon as his head is above

our Horizon, making so many million of miles in an unimaginable space of time, I say, the *light beating* upon the body which opposeth her, cannot choose but make there some small incisions proportionable to her rarity and subtility. And these small Atomes being cut, and loosened from their trunck, being composed of the four Elements, (as all bodies are) the heat of the light doth stick, and incorporate it self with the most humid, viscous, and gluing parts of the said Atomes, and brings them along with her. Experience shews us this as well as Reason; for when one puts a wet cloth to dry before the fire, the fiery rayes beating thereon, those which find no entrance, reflect thence, and carry away with them some small moist bodies, which make a kind of mist betwixt the cloth and the fire. In like manner the beams of the Sun at his rising enlightning the earth, which is humified either by rain, or the dew of the night, raise a mist, which by little and little ascends to the

the tops of the hills; and this miſt doth ratifie according as the Sun hath more force to draw it upwards, untill at laſt we loſe the ſight thereof, and that it becomes part of the aire, which in regard of its tenuity is inviſible unto us. Theſe Atomes then are like Cavaliers mounted on winged Courſers, who go very far, untill that the Sun ſetting, takes from them their Pegaſus's, and leaves them unmounted; and then they precipitate themſelves in crowds to the earth, whence they ſprung, the greateſt part of them, and the moſt heavy fall upon the firſt retreating of the Sun, and that we call the *Serain*, which though it be ſo thin that we cannot ſee it, yet we feel it as ſo many ſmall hammers which ſtrike upon our heads and bodies, principally on thoſe that are ancient; for the young men, in regard of the boyling of their blood, and the heat of their complexion, thruſt out of them abundance of ſpirits, which being ſtronger then thoſe that fall from the *Serain*, repulſe them,

and hinder them to operate upon the bodies whence these spirits came forth, as they do upon those that being growne cold by age, are not wranted by so strong an emanation of the spirits which come out of them. The wind which blows, and is tossed to and fro, is no other than a great River of the like Atomes, drawn out of some solid bodies, which are upon the earth, and so are bandied ere and there, according as they find cause for that effect.

I remember to have once sensibly seen how the wind is ingendred: I passed over Mount *Cenis*, to go for *Italy*, towards the beginning of Summer, and I was advanced to half the hill, as the Sun did rise cleer and luminous, but before I could see his body, because the Mountains interposed, I observed his rayes, which did guild the top of the Mountain *Viso*, which is the Pyramid of a Rock, a good deal higher than Mount *Cenis*, and all the neighbouring Mountains. Many are of opinion, that it is the highest Mountain in the World,

World, after the *Pic of Tenariff*, in the grand Canary; and this Mount *Viſo* is alwayes covered with ſnow, I obſerved then, that about that place, which was illuminated by the Solar rayes, there was a fog which at firſt was of no greater extent than an ordinary bowle, but by degrees it grew greater, that at laſt, not onely the top of that Mountain, but all the neighbouring hills, were canopied all over with a cloud. I was now come to the top of Mount *Cenis*, and finding my ſelf in the ſtreight line which paſſeth from the Sun to Mount *Viſo*, I ſtayed a while to behold it, while my people were coming up the hill behind, for having more men to carry my chair than they had, I was there ſooner. It was not long that I might perceive the ſaid fog deſcend gently to the place where I was, and I began to feel a freſhneſſe that came over my face, when I turned it that way. When all my Troop was come about me, we went deſcending the other ſide of Mount *Cenis*, towards *Suze*, and the

lower

lower we went, we ſenſibly found that the wind began to blow hard behind our backs, for our way obliged us to go toward that ſide where the Sun was. We met with Paſſengers that were going up that way we went down; they told us that the wind was very impetuous below, and did much incommodate them by blowing in their faces and eyes, but the higher they came, it was leſſer and leſſer: and touching our ſelves, when we came to the place where they ſaid the wind blew ſo hard, we found a kind of ſtorme, and it increaſed ſtill the lower we went, untill the Sun being well advanced, drew no more by that line, but cauſed a wind in ſome other place. The people of that Country aſſured me, that it was there alwayes ſo, if ſome extraordinary and violent accident did not intervene, and divert its ordinary courſe, which is, that upon a certain hour of the day, the wind doth raiſe it ſelf to a certain rumb, and when the Sun is come to another point, another wind riſeth, and

ſo

ſo from hand to hand it changes the rumb till the Sun ſet, which alwaies brings with it a calm, if the weather be fair, and that the wind alwaies comes directly from the Mount *Viſo*, oppoſite to the Sun. They told us alſo, that the daily wind is commonly ſtronger towards the bottom of the Mountain, than towards the top; whereof the reaſon is evident, for the naturall mōtion of every body naturall doth increaſe alwaies in ſwiftneſs, according as it moves forward to its center, and that in an odde number, (as *Galileo* hath ingeniouſly demonſtrated, I did it alſo in another Treatiſe) that is to ſay, that if at the firſt moment it advanceth an ell, in the ſecond it advanceth three, in the third five, in the fourth ſeven, and ſo it continueth to augment in the ſame manner; which proceeds from the denſity, and figure, of the deſcending body acting upon the ceſſibility of the medium. And theſe ſmal bodys which cauſe the wind from Mount *Viſo* are thick and terreſtrial; for the ſnow being compoſed of aquaticall and earthly parts united by the cold, when the heat

of

of the Solar beams doth disunite and separate them, the viscous parts flie with them, while the terrestriall, being too heavy to fly upward, fall presently downward. This makes me remember a very remarkable thing, which befell me when I was with my Fleet in the Port of *Scanderon*, or *Alexandrette*, towards the bottome of the *Mediterranian* Sea: there they use to disimbark, when they go to *Aleppo*, or *Babylon*. I had done already what I had intended to do in those seas, and happily compassed my design, so it imported me much to return to *England* as soon as possibly I could, and the rather because my Ships were battered by a great fight, which I had had a little before against a formidable power; which, although I had obtained the better, yet in so furious a dispute, my Fleet was in some disorder, and my Ships full of wounded men. To advise therefore of the most expedient road to come to some harbour, where I might repaire my Ships, and be in surety; I assembled all

all my Captains, Pilots, and Mariners, the moſt experienced of my Fleet; and having propounded unto them my deſign, they were all of an unanimous opinion, that the ſureſt courſe was towards the South; and to coaſt upon *Syria*, *Judea*, *Egypt*, and *Africa*, and render our ſelves at the Streight of *Gibraltar*; and ſailing ſo near the body of the Earth, we ſhould have every night ſome ſmall briezes of wind, whereby we ſhould in a ſhort time make our Voyage. And beſides, we ſhould not be in any great danger to meet either with *Spaniſh* or *French* Fleets; for *England* was at that time in open warre with both thoſe Kings, and we had advice that they had great Fleets abroad, to vindicate ſome things we had done in prejudice of them both thoſe ſixteen months that we remained Maſter of thoſe Seas; therefore it concerned us to make towards ſome ſafe fort, where we might both refreſh our men, and repaire our battered Veſſels.

My opinion was clean contrary

to

to theirs, for I believed our beſt way was to ſteer our courſe Weſtward, and to ſaile along the Coaſts of *Cilicia*, *Pamphylia*, *Lydia*, *Natolia*, or *Aſia* the leſſe, and to traverſe the mouth of the *Archipelago*, to leave the *Adriatick* Sea on the right hand, and paſſe by *Sicily*, *Italy*, *Sardinia*, *Corſica*, the Gulph of *Lioñ*, and ſo coaſt all *Spain*; telling them that it would be a great diſhonour unto us to forſake our beſt road for fear of the enemy, being that our chief buſineſſe thither was to find them out, and the protection which it had pleaſed God to afford us all along in ſo many combats in going, was cauſe to make us hope that the ſame Providence would vouchſafe to guide us as we ſhould be returning. That there was no doubt but that the road which I propoſed unto them, conſidered ſimply in it ſelf, was, without compariſon, the better, and the more expedite to ſaile out of the Mediterranean Sea, and gain the Ocean, becauſe, ſaid I, that although we have the briezes from off the

earth

earth as long as we were upon the coaſts of *Syria* and *Egypt*, we ſhall not have them at all while we ſaile upon the coaſts of *Lybia*, where there are thoſe fearfull ſands which they call the *Syrtes*, which are of a great extent, the ſaid coaſt having no humidity, for there is neither tree nor herb grows there, there being nought elſe but moving ſands, which covered and buried heretofore at one glut the puiſſant Army of King *Cambyſes*. Now where there is no humidity, the Sun cannot attract to make a wind, ſo that we ſhall never find there, ſpecially in Summer-time, any other wind but that Regular wind which blowes from Eaſt to Weſt, according to the courſe of the Sun, who is the Father of winds, unleſſe ſome extraordinary wind happen, either from the Coaſt of *Italy*, which lyes North-ward, or from the bottom of *Ethiopia*, where the mountains of the Moon are, and the ſource of the Cataracts of *Nile*: therefore if we were neer the *Syrtes*, the winds of *Italy* would be moſt dangerous unto

us,

us, and expose us to shipwrack. I reasoned so, according to naturall causes, while they of my Councell of Warre kept themselves firme to their experience; which was the cause that I would do nothing against the unanimous sense of all; for although the disposing, and resolution of all things depended absolutely upon my self, yet I thought I might be justly accused of rashnes or wilfulnesse, if I should preferre my own advice before that of all the rest: so we took that course, and went happily as far as the Syrtes of *Lybia*; but there our Land-briezes failed us, and for seven and thirty dayes we had no other but a few gentle Zephirs, which came from the West, whither we were steering our course. We were constrained to keep at anchor all that time, with a great deal of apprehension of fear, that the wind might come from the North, accompanied with a tempest; for if that had happened, we had been all lost, because our anchors had not been able to hold among those moving,

sands,

ſands, for under water they are of the ſame nature as they are upon dry land, and ſo we might be in danger to be ſhipwrackt upon that Coaſt. But God Almighty, who hath been pleaſed I ſhould have the honour to wait upon you this day, did deliver me from that danger. And at the end of ſeven and thirty dayes, we obſerved the courſe of the clouds very high, which came from South-eaſt, at firſt but ſlowly, but by degrees faſter and faſter, inſomuch, that in the compaſſe of two dayes, the wind which was forming it ſelf a great way off in *Ethiopia*, came in a tempeſt to the place where we rid at anchor, and led us to the place whither we intended to go? but the force of it was broken before, coming ſo long a diſtance.

Out of this diſcourſe we may infer, and conclude, that every where whereſoever there is any wind, there be alſo ſome ſmall bodies, or atoms, which are drawn from the bodies; which lie in thoſe places, whence the wind comes, by the virtue of the Sun,

and

and of the Light, and that in effect this wind is noting else but the said atomes agitated, and thrust on from any side with impetuosity; and so the winds do partake of the qualities of the place from whence they come: as for example, if they come from the South they are hot; if from the North they are could; if from the Earth alone they are dry; if from the Marine, or Sea-side, they are humid and moist; if from places which produce aromaticall substances, they are odoriferous, wholsom and pleasing; as they say those which come from *Arabia Felix*, which produceth Spices, Perfumes and Gummes of sweet savour; and this which comes from *Fontenay*, and *Vaugirard* to, *Paris*, in the season of Roses are all perfumed: on the contrary, those winds that come from stinking places, as from the sulphureous soil of *Pozzuolo*, do smell ill: and those that come from infected places, bring the contagion along with them.

My third principle shall be, that the Air is full throughout with small bodies or atomes, or rather that which

which we call our air, is no other than a mixture, or confuſion of ſuch aromes, wherein the aereall parts do predominate.

It is well known, that in nature there cannot be actually found any pure Element, without being blended with others; for the outward fire, and the light acting one way, and the internall fire of every body puſhing on another way, cauſeth this marvellous mixture of all things in all things. In that huge extent, wherein we place the air, there is ſufficient ſpace, and liberty in which to make ſuch mixture, which Experience as well as Reaſon doth confirme. I have ſeen little Vipers, as ſoon as they came out of the eggs wherein they were ingendred, being not an inch long, having been kept in a large cucurbite, covered with paper tyed round about, that they might not get out, and little holes made with pins, that the air might enter, increaſe in ſubſtance and bigneſſe ſo prodigiouſly in ſix, eight, or ten

months

months, that it is incredible, and more ſenſibly, during the ſeaſon of the equinoxes, then, when the air is fuller of thoſe ethereall and balſamical atomes which gave them their balſamick virtue, which they drew for their nouriture.

Hence it came that the *Coſmopolite* had reaſon to ſay, *Eſt in aere occultus vitæ cibus.* There is a hidden food of life in the air. Theſe ſmall Vipers had but the air onely for their ſuſtenance, nevertheleſſe by this thin viand, they came in leſſe than a year to a foot long, and proportionably big and heavy. Vitriol, Saltpeter, and ſome other ſubſtances, do augment in the ſame manner, onely by attraction of air.

I remember, that upon ſome occaſion, ſeventeen or eighteen yeares ago, I had occaſion to uſe a pound of Oyle of Tartar; it was at *Paris*, where I had then no Operatory. Then I deſired *Monſieur Ferrier*, a man univerſally known by all ſuch that are curious, to make me ſome, for he had none then ready made, but

but did it expreſly for me, and for the Calcination of Tartar, twenty pound may be as eaſily made as two, without increaſe of charge, therefore he took occaſion hereby to make a quantity for his own uſe. When he brought it me, the oyle did ſmell ſo ſtrong of the Roſe, that I complained that he ſhould mingle it with that water, in regard I had deſired him to do it purely, by expoſing it to the humid air, for I verily thought that he had diſſolved the ſalt of Tartar in Roſe-water; he ſwore unto me that he had not mingled it with any liquor, but that he had left the Tartar calcined within his Cellar, to diſſolve of it ſelf. It was then in the ſeaſon of Roſes, therefore it ſeems that the air being then full of the atomes, which come from the Roſes; and being changed into water by the powerfull attraction of the ſalt of Tartar, their ſmell became very ſenſible in the place where they were gathered; as the beams of the Sun do burn, being crowded together in a burning-glaſs.

There

There happened also another marvellous thing touching this oyle of Tartar, which may serve to proye a propoſition which we have not yet touched: but not to interrupt the courſe of the ſtory: I will tell it you by vvay of advance. It vvas, that as the ſeaſon of Roſes vvas paſſed, the ſmell of the Roſes did vaniſh avvay from the ſaid oyle of Tartar, ſo that in three or four months it vvas quite gone. But vve vvere much ſurpriſed, vvhen the next year the ſaid odour of Roſes returned as ſtrong as ever it did, and ſo vvent avvay again tovvards vvinter; vvhich courſe it ſtill obſerves. Which made *Monſieur Ferrier* to keep it as a ſingular rarity, and the laſt Summer I found the effect of it in his houſe.

We have in *London* an unlucky and troubleſome confirmation of this doctrine, for the air uſeth to be full of ſuch atomes. The materiall vvhereof they make fire in that great City, is commonly of pit-coal, vvhich is brought from *Newcaſtle*, or *Scotland*; this coal hath in it a great quantity

quantity of volatil ſalt very ſharp, which being carried on by the ſmoke doth diſſipate it ſelf, and fill the aire, wherewith it doth ſo incorporate, that although we do not ſee it, yet we find the effects, for it ſpoils beds, Tapiſtries, and all other houſhold-ſtuff that is of any beautifull fair colour, for the fuliginous aire doth tarniſh it by degrees: and although one ſhould lock up his Chamber, and come not thither a good while, and keep it never ſo clean, yet at his return he will find a black kind of thin ſoot cover all his houſhold-ſtuff; (as we ſee in Mills, there is a white duſt, as alſo in Bakers ſhops) the ſame gets into Coffers, and is very plainly ſeen upon Linnen or paper, and upon ſuch white things as are coffered up; alſo Bands and Cuffs are fouled more in one day, than in ten in the Champain out of the reach of that ſmoak. And in the City, in the Spring-time when the trees bloſſom, all the white flowers are ſullied with a ſooty blackneſs. Now, in regard that it is this aire which the lungs of all the inhabitants draw for refreſhment, therefore the

flegm and ſpittle which comes from them is commonly blackiſh and fuliginous. Moreover, the acrimony of this ſoot produceth another moſt diſmal effect, for it makes the people ſubject to inflammations, and by degrees to ulcerations in the Lungs. It is ſo corroſive, and biting, that if one put Gammons of Bacon, or Beef, or any other fleſh within the Chimney, it ſo dries it up, that it ſpoiles it. Wherefore they who have weak Lungs, quickly feel it, whence it comes to paſſe, that almoſt the one half of them who dye in *London*, dye of phthiſicall and pulmonicall diſtempers, ſpitting commonly blood from their ulcerated Lungs. But at the beginning of this malady, the remedy is very eaſie; It is but to ſend them to a place where the aire is good: many do uſually come to *Paris*, who have means to pay the charge of ſuch a journey, and they commonly uſe to recover their perfect healths. The ſame inconveniences are alſo, though the operations be not ſo ſtrong in the City of *Liege*, where the common people

people burn no other than pit-coals, which they call *Hoville*. *Paris* her ſelf alſo, although the circumambient aire be paſſing good, is yet ſubject to incommodities of that nature. The exceſſively ſtinking dirt and channels of that vaſt City, mingleth a great deal of ill allay with the purity of the aire, ſtuffing it every where with corrupted Atomes, which yet are not ſo pernicious as thoſe of *London*. We find that the moſt neat and poliſhed ſilver plate, expoſed to the aire, becomes in a ſhort time livid and foul; which proceeds from no other cauſe, then from thoſe black Atomes, (the true colour of putrefaction) which ſtick unto them. And the more poliſht and bright the metal is, the more viſible are they. I know a perſon of quality, (and a ſingular friend of mine) who is lodged in a place, where on the one ſide a great many poor people do inhabit, where few Carts uſe to paſſe, and fewer Coaches: his neighbours behind his houſe empty their filth and ordure in the middle of the

ſtreet, which uſeth hereby to be full of mounts of filth, which uſe to be carried away by Tombrells; when they remove theſe ordures, you cannot imagine what a ſtench, and kind of infectious aire is ſmelt thereabout every where. The ſervants of my ſaid friend, when this happens, uſe to cover their plate, and Andirons of poliſhed braſſe, and other of their faireſt houſhold-ſtuff, with Cotten, or courſe Bayes, otherwiſe they would be all tarniſhed; yet nothing hereof is ſeen within the aire: though theſe experiences do manifeſtly convince, that the aire is ſtuffed with ſuch atomes. I cannot omit to adde hereunto another experiment, which is, that we find by the effects, how the rayes of the Moon are cold and moiſt. It is without controverſie, that the luminous parts of thoſe rayes come from the Sun, the Moon having no light at all within her, as her Eclipſes bear witneſſe, which happen when the earth is oppoſite 'twixt her & the Sun; which interpoſition ſuffers her not

to

to have light from his rayes. The beams then which come from the Moon, are those of the Sun, which glancing upon her, reflect upon us, and so bring with them the atomes of that cold and humid star, which participates of the source whence they come: therefore if one should expose an hollow bason, or glasse, to assemble them, one shall find that whereas those of the Sun do burn by such a conjuncture, these cleane contrary do refresh and moysten in a notable manner, leaving an aquatick, and viscous glutinous kind of sweat upon the glasse. One would think it were a folly that one should offer to wash his hands in a well-polished silver-bason, wherein there is not a drop of water, yet this may be done by the reflection of the Moon-beams onely, which will afford a competent humidity to do it; but they who have tried this, have found their hands, after they are wiped, to be much moister then usually: but this is an infallible way to take away Warts from the hands, if it be often used.

Let us then conclude out of theſe premiſes, and experiments, that the aire is full of Atoms, which are drawn from bodies by means of the light which reflects thereon, or which ſally out by the interiour naturall heat of thoſe bodies, which drive them forth. It may haply ſeem impoſſible that there can be an emanation of ſo many ſmall bodies, that ſhould be ſpread up and down the aire, and be ſo carried up and down, and ſo far by a continuall flux, (if I may ſay ſo) and yet the body whence they come receive no diminution that is perceptible, though ſometimes 'tis viſible enough, as by the evaporations of the ſpirits of wine, muſk, and other ſuch volatil ſubſtances. But this objection will be null, and the two precedent principles will render themſelves more credible, when we ſhall ſettle another, *viz.* That every body, be it never ſo little, is diviſible *ad infinitum*, not that it hath infinite parts, for the contrary thereof may be demonſtrated, but it is capable to

be

be divided and ſubdivided into new parts, without ever coming to the end of the diviſion. And it is in this ſenſe that our Maſters teach us that quantity is infinitely diviſible. This is evident to him who ſhall conſider with a profound imagination the eſſence, and the formall reaſon of quantity, which is nothing elſe but diviſibility. But in regard that this ſpeculation is very ſubtile and metaphyſicall, I will ſerve my ſelf with ſome geometricall demonſtrations to prove this Truth, for they accommodate themſelves beſt to the imagination. *Euclide* doth teach us in the tenth Propoſition of his ſixth Book, that if one take a ſhort line, and another long one, and that the long be divided to divers equall parts 'twixt themſelves, the little one may be divided alſo into as many equall parts among themſelves, and every one of thoſe parts alſo into others, and theſe laſt into ſo many more, and ſo on, without being able ever to come to that which is not diviſible.

But lets ſuppoſe (although it be impoſſible) that one might divide, and ſubdivide a line; ſo that at laſt we ſhould come to an indiviſible, and lets ſee what will come of it: I ſay then, that ſince the line doth reſolve it ſelf into indiviſibles, ſhe ought to be compoſed of them; lets ſee whether that may be verified. To which purpoſe I take three indiviſibles, and to diſtinguiſh them, let them be A. B. C. for if three millions of indiviſibles make a long line, three indiviſibles will make a ſhort one. I put them then in a rank; Firſt, I put A, then B, ſo neer, that they touch one another: I ſay that B muſt neceſſarily poſſeſſe the ſame place as A, or that it doth not poſſeſſe it; if it doth poſſeſſe the ſame place, they both together make no extenſion, and by the ſame reaſon neither 3 nor 3000 will do it, but all the indiviſibles will unite together, and the reſult of all ſhall be but onely one indiviſible. It muſt be then that being not both in the ſame place, yet touching one another,

ther, one part of B must touch one part of A, and the other part toucheth it not. Then I adde the indivisible C, whereof one part shall touch a part of B which touches not A, and by this means B is copulant, lying between A and C, to make the extension. To do this, you see that we must admit that B hath parts as the other two, which by your supposition are all indivisible; which being absurd, the supposition is unpossible. But to render the matter yet more perspicuous, lets suppose that these three indivisibles make one extension, and compose one line; the proposition already cited from *Euclide* demonstrates that this line may be divided into thirty equall parts, or into as many as you please: insomuch that it must be granted, that every one of these three indivisibles may be divided into three parts, which is point-blank against the nature and definition of an indivisible. But without dividing into so many parts, *Euclide* shews by his tenth proposition of his first Element, that every line may be parted into two equall parts; but

this being compoſed of indiviſibles of unequall number, it muſt neceſſarily follow, that being parted into two, there muſt be an indiviſible more on the one ſide than on the other, or that that of the middle be parted into two halfs : inſomuch, that he who denies that quantity may not be divided *ad infinitum*, doth entangle himſelf in abſurdities, and incomprehenſible impoſſibilities. And on the contrary, he who aſſents unto it, will find it no impoſſibility, or inconvenient, that the Atomes of all bodies which are in the aire may be divided, ſtretch'd and carried to a marvellous diſtance. Our very ſenſes verifie it in ſome ſort : there is no body in the World which we know ſo compact, ſo ſolid and weighty as Gold, yet nevertheleſſe unto what a ſtrange extent and diviſion may it be brought? Lets take an ounce of this maſſy metall, it ſhall be but a button as big as my fingers end ; A beater of gold will make a thouſand leaves or more of this ounce, one half of theſe leaves

ſhall

ſhall ſuffice to guild the whole ſurface of a lingot of ſilver, of three or four ounces : lets give this guilded lingot of ſilver to them, who prepare gold and ſilver thread to make lace, and let them draw it to the greateſt length and ſubtilty they can, let them draw it to the thinneſs of an hair, and ſo this thread may be a quarter of a league long in extent, if not more : and in all this length there will not be the ſpace of an Atome which is not covered with gold. Behold a ſtrange and marvellous dilatation of this half leaf : let us do the like to all the reſt of the beaten gold, it will appear that by this meanes this ſmall button of gold may be ſo extended, that it may reach from this City of *Montpellier* to *Paris*, and far beyond it : into how many million millions of atomes might not this guilded line be cut with ſmall Ciſers ?

Now, 'tis eaſie to comprehend that this extenſion, and diviſibility made by ſuch groſs inſtruments as Hammers and Ciſers, is not comparable to that which is made by the light and

rayes

rayes of the Sun. For it is certain, that if this gold may be drawn into such a great length by spindles, or wheels of iron, some of these parts may easily be carried away by those winged Coursers we spoke of before, I mean, by the rayes that flye in a moment from the Sun to the earth.

If I did not think I should weary you by my prolixity, I could entertain you with the strange subtilitie of little bodies which issue forth from living bodies, by means whereof our Dogs in *England* will pursue the sent of a mans steps, or of a beasts, many miles: and not onely so, but they will find in a great heap of stones that which a man hath touched with his hand: Therefore it must needs be, that upon the earth, or upon the stone, some material parts of the body remain which hath touched it, yet the body doth not sensibly diminish, no more than Ambergrise, and the *Spanish* skins, which will send out of them an odour during an hundred years, without

any

any diminution of skin or ſmell. In our Country they uſe to ſow a whole field with one ſort of grain, to wit, one year with barly, the next with wheat, the third with beans, and the fourth year they let it lie fallow to manure it, and that it may recover its vigour by attraction of the vitall ſpirit it receives from the air, and ſo plow it up again after the ſame degrees. Now, the year that the field is covered with beans, the paſſengers by do uſe to ſent at a good diſtance off, if the wind blow accordingly, the ſmell of the Beans, if they be in flower: It is a ſmell that hath a ſuavity with it, but fading, and at laſt is unpleaſant and heady. But the ſmell of Roſemary, which comes from the coaſts of *Spain*, goes far further: I have ſailed by Sea along thoſe coaſts divers times, and I have obſerved alwayes, that the Mariners know when they are within thirty or forty leagues of the Continent, (I do no not exactly remember the diſtance) and they have this knowledg from the ſmell of the Roſemary, which

which ſo abounds in the fields of *Spain*; I have ſmelt it as ſenſibly, as if I had had a branch of Roſemary in my hand, and this was a day or two before we could diſcover Land; 'tis true, the wind was in our faces, and came from the ſhore. Some Naturaliſts write that Vultures have come two or three hundred leagues off, by the ſmell of carrions, and dead bodies left in the field, after ſome bloudy battle; and it was known that theſe birds came from afar off, becauſe there was none uſed to breed neerer; they have a quick ſmelling, and it muſt be that the rotten atomes of thoſe dead carkaſes were tranſported by the aire ſo far, and thoſe birds having once caught the ſent, they purſue it to the very ſource, and the neerer they come to it, the ſtronger it is.

We will conclude here that which we had to ſay touching the great extent of thoſe little bodies, which by the mediation of the Sun-beams, and of the light, uſe to iſſue forth out of all bodies that are compoſed

of the four Elements, which throng the air, and are carried a marvellous diſtance from the place, and from the bodies whence they have their Origen and ſource; the proof and explication of which things hath been the aime of my diſcourſe hitherto.

Now, my Lords, I muſt, if you pleaſe, make you ſee how theſe ſmall bodies that ſo fill, and compoſe the air, are oftentimes drawn to a road altogether differing from that which their univerſal cauſes ſhould make them hold; and that ſhall be our fifth principle.

One may remark within the courſe and œconomy of nature, ſundry ſorts of attractions: as that of ſuction, or ſucking, whereby I have ſeen a ball of lead at the bottom of a long ſpindle exactly wrought, follow the air, which one ſucked out of the mouth of a Cannon, with that impetuoſity and ſtrength, that it broke his teeth. The attraction of water or wine that is done by the inſtrument Scypho is like to this, for by meanes of that, one liquor is made

made to passe from one vessel into another, without changing any way the colour, or rising of the lees. There is another sort of attraction, which is called magneticall, whereby the loadstone draws the iron. Another electrick, whereby the Jett-stone draws unto it straws. There is another of the Flame, when the smoke of a candle put out, draws the flame of that which burns hard by, and makes it descend to light that which is out. There is another of *Filtration*, whereby a humid body mounts upon a dry body, or when the contrary is done. Lastly, when the fire, or some hot body draws the air, and that which is mixed therewith.

We will treat onely here of the two last species of attraction, I have sufficiently spoken of the rest in another place. *Filtration* may seem to him who hath not attentively considered it, nor examined by what circumstances so hidden a secret of nature comes to passe, and to a person of a mean and limited understanding, to

to be done by ſome occult virtue, or property, and will perſwade himſelf, that within the Filtre, or ſtrayning Inſtrument, there is ſome ſecret Sympathy, which makes water to mount up contrary to its naturall motion.

But he who will examine the buſineſſe as it ought to be, obſerving all that is done, without omitting any circumſtance, will find there is nothing more naturall, and that it is impoſſible it ſhould be otherwiſe. And we muſt make the ſame judgement of all the profound and moſt hidden myſteries of nature, if one would take the pains to diſcover them, and ſearch into them with judgement.

Behold then how *Filtration* is made, they uſe to put a long tongue of cloth, or cotten, or ſpongy matter, within an earthen pot of water or other liquor, letting hang upon the brim of the pot a good part of the cloth, and one ſhall ſee the water preſently mount up, and paſſe above the brink of the veſſell,

and

and drop at the lower end of the piece of cloth, upon the ground, or into a veſſel ſet under: and the Gardners uſe this way to water their plants and flowers in Summer by degrees. As alſo the Apothecaries, and Chymiſts, to ſeparate their liquors from their dregs and reſidences.

To comprehend the reaſon why the water aſcends in this manner, let us neerly obſerve all that is done. That part of the cloth which is within the water, becomes wetted, to wit, it receives and imbibes the water through its parts that were at firſt ſpongy and dry. This cloth ſwells in receiving the water, for two bodies joyned together, required more room than one of them would by it ſelf. Let us conſider this ſwelling, and augmented extenſion in the laſt thread of them which touch the water, *viz.* in that on the ſuperficies, which muſt be diſtinguiſhed from the reſt, and marked at the two ends, (as a line) with A. B. and the thread which immediately follows,

follows, and is above it, muſt be C. D. and the following E. F. then with G. H. and ſo to the end of the tongue: I ſay then that the thread A. B. dilating it ſelf, and ſwelling by meanes of the water which enters twixt its fibres or ſtrings, approcheth by little and little to C. D. which is yet dry, becauſe it toucheth not the water; but when A. B. is grown ſo groſſe and ſwelling; by reaſon of the water which enters, that it fills all the vacuity, and all the diſtance which lies twixt it and C. D. as alſo that it preſſeth againſt C. D. by reaſon of its extenſion, which is greater then the ſpace was betwixt them both, then it wets C. D. becauſe the thread A. B. being compreſſed, the exterior part of the water which was in it, coming to be puſhed on upon C. D. ſeeks there a place, and entreth within the threads, and wets them, in the ſame manner as at firſt the exterior and higheſt part became wet. C. D. being ſo wetted, it ſhall dilate it ſelf as A. B. did, and conſequently preſſing againſt

gainſt E. F. it cannot chuſe but work the ſame effect in it, which before it had received by the ſmelling and dilatation of A. B. and ſo by gentle degrees every thread wets its neighbour, untill the very laſt thread of the tongue of cloth. And it is not to be feared that the continuity of the water will break, aſcending this ſcale of cords, or that it will recoile backwards, for thoſe little ladders, ſo eaſie to be mounted, render the aſcent the more eaſie, and the woolly fibres of every thread ſeem to reach their hands to help them up at every pace; and ſo the facility of getting upwards, together with the fluidneſſe of the water, and the nature or quantity, which tends alwayes to the uniting of ſubſtances, and of bodies which it clothes, when there occurs no other predominant cauſe to break and divide it, cauſeth that the water keeps it ſelf in one piece, and paſſeth above the brink of the pot. After that its voyage is made more eaſie, for it goes after its naturall inclination, alwayes downwards.

wards. And if the end of the cloth hangs lower without the pot, then the ſurface of the water within the pot, the water ſpills on the earth, or on ſome veſſel placed beneath, as we ſee that a heavier cord being hung upon a pully, the longeſt and heavieſt falls upon the ground, and carrieth away the ſhorteſt, and lighteſt, making it paſſe above the pully. But if the outward end of the cloth which is without the pot were horizontall with the ſurface of the water, and did hang no lower then it, the water would be immoveable: as the two ſides of a balance, when there is equall weight in both the ſcales. And if one would poure out the water that is in the pot, in ſuch ſort that the ſuperficies did grow lower then the end of the cloth; in that caſe the aſcending water becoming more heavy then the deſcendant on the other ſide without the pot, would call back that which was gone out before, and was ready to fall, and would make it thruſt on, and return to its former pace, and

enter

enter again into the pot, to mingle again with the water which lyes therein.

You ſee then all this myſtery, which at firſt was ſo ſurprizing, diſplayed and made as familiar and naturall, as to ſee a ſtone fall down from the air. Tis true, that to make a demonſtration thereof by an exact and compleat rigour, we muſt adde other circumſtances, which we have done at length in another Diſcourſe, wherein I have expreſly treated of this ſubject. But that which I now ſay is ſufficient upō this occaſiō to give a tincture how this ſo notable an attraction is made.

The other attraction which is made by fire, and draws unto it the ambient air, with the ſmall bodies therein, is done thus.

The Fire acting according to its own nature, (which is to puſh on a continuall river, or exhalation of its parts, from the center to the circumference, and out of its ſource,) carrieth away with it the air which is adjoyned, and ſticking to it on all ſides, as the water of a river drawes along

long with it the earth of that channel or bed through which it glides. For the aire being humid, and the fire dry, they cannot do leſſe than embrace, and hug one another. But there muſt a new aire come from the places circumjacent, to fill the room of that which is carried away by the fire, otherwiſe there would a vacuity happen, which nature abhors. This new air remaines not long in the place which it comes to fill, but the fire, which is in a continuall career, and emanation of its parts, carries it preſently with him, and draws the new aire, and ſo there is a perpetuall and conſtant current of the aire, as long as the action of fire continues. We dayly ſee the experience hereof, for if one makes a good fire in ones Chamber, it draws the aire from the door, and windows, which though one would ſhut, yet there be crevices and holes for the aire to enter, and coming near them, one ſhall hear a kind of whiſling noiſe, which the aire makes in preſſing to enter, and 'tis the ſame cauſe that produceth

ceth the ſound of the Organ and Flute; and he who would ſtand between the crevices and the fire, he ſhould find ſuch an impetuoſity of that artificiall wind, that he would be ready to freeze, while he is ready to burn the other ſide next the fire. And a candle of wax being held in this current of the wind would melt by her flame blown againſt the wax, and waſte away in a very ſhort time: whereas if that candle ſtood in a calme place, that her flame might burn upward, it would laſt much longer. But if there be no paſſage whereby the air may enter into the Chamber, the one part then of the vapour of the wood which ſhould have converted to flame, and ſo mounted up the funnel of the chimney, deſcends downward againſt its nature, for to ſupply the defect of air within the ſaid Chamber, and fills it with ſmoke, but at laſt the fire choaks, and extinguiſheth for want of air. Whence it comes to paſſe that the *Chymiſts* have reaſon to ſay, that the air is the life of the fire, as well

well as other animals. But if one puts a baſon, or veſſell of water before the fire upon the hearth, there will be no ſmoke in the Chamber, although it be ſo cloſe ſhut that the aire cannot enter, for the fire attracts part of the water, which is a liquid ſubſtance, and eaſie to move out of its place, which aquatick parts rarifie themſelves into aire, and thereby performe the functions of the air. This is more evidently ſeen if the Chamber be little, for then the aire which is there penned in, is ſooner raiſed up, and carried away. And by reaſon of this attraction, they uſe to make great fires, where there is houſhold-ſtuffe of men that died of the Peſtilence, to diſinfect them. For by this inundation of aire which is drawn, the fire doth as it were ſweep the walls, the planks, with other places of the Chamber, and takes away thoſe little putrified, ſharp, corroſive, and venemous bodies, which were the infections that adhered unto it, drawing them into the fire, where they are partly burnt,

and partly sent up into the chimney, accompanied with the atoms of the fire and the smoke. It is for this reason that the great *Hippocrates*, who dived so far into the secrets of Nature, disinfected, and freed from the plague a whole Province, or entire Region, by causing them to make great fires every where.

Now, this manner of attraction is made, not onely by a simple fire, but by that which partakes of it, *viz.* by hot substances: and that which is the reason and cause of the one, is also the cause of the other. For the spirits, or ignited parts evaporating from such a substance, or hot body, carry away with them the adjacent aire, which ought necessarily to be nourished by some other aire, or by some matter which keeps the place of the aire, as we have spoken of the Bason, or Tub of water set by the fire to hinder smoking. It is upon this foundation that Physitians do ordain the hot application of Pigeons, or young dogs, or some other hot animals, to the

the ſoles of the feet, or the wriſts, or the ſtomachs, or navills of their Patients, to extract out of their bodies the wind, or ill vapours which infect them; and in time of Contagion, or univerſall infection of the aire, pigeons, cats, dogs, with other hot animals, uſe to be killed, which make continually a great tranſpiration or evaporation of ſpirits, becauſe the aire by the attraction it makes, taking the roome of the ſpirits, which iſſue forth in this evaporation, the peſtiferous atoms which are ſcattered in the aire, and accompany it, uſe to ſtick to their feathers, skins, or furres.

And for the ſame reaſon we ſee that bread coming hot from the Oven, draws unto it the muſt of the cask, which ſpoils the wine, if they put it hot upon the bung. And that Onions, and ſuch hot bodies which perpetually exhale their fiery parts, which appears by the ſtrength of their ſmell, are quickly taken with infectious aires, if they be expoſed unto them, which is one of th

ſignes to know whether the whole maſſe of the aire be univerſally infected.

And one might reduce to this head the great attraction of aire, which is made by calcin'd bodies, and particularly by Tartar, all ignited by the extreme action of fire upon it, which is amaſſed and embodied among its ſalt: for I have obſerved that it attracts unto it nine times more air than it weighs it ſelf. For if one ſhould expoſe to the aire a pound of ſalt of Tartar well calcin'd, and burnt, it will afford you ten pound of good oyl of Tartar, drawing unto it, and ſo incorporating the circumjacent air, and that wherewith tis mingled; as it befell that oyl of Tartar which *Monſieur Ferrier* made me, whereof I ſpake before. But methinks that all this is but little compared to the attraction of air, which was made by the body of a certain Nunne at *Rome*, whereof *Petrus Servius*, *Urban* the Eighth's Phyſician makes mention in a book which he hath publiſhed, touching the mar-

marvellous accidents which he obſerved in his time. Had I not ſuch an Author, I durſt not produce this Hiſtory, although the Nunne her ſelf did confirm it unto me, and that a good number of Doctors of the faculty of Phyſick at *Rome*, did aſſure me of the Truth thereof: There was a Nunne, that by exceſſe of Faſtings, Watchings, and mental Prayers, was ſo heated in her body, that ſhe ſeemed to be all on fire, and her bones dryed up, and calcind: This heat then, this internal fire, drawing the aire ſo powerfully; this aire did incorporate within her body, as it uſeth to do in ſalt of Tartar, and the paſſages being all open, it got to thoſe parts where there is moſt ſeroſity, which is the bladder, and thence ſhe rendred it in water among her urine, and that in an incredible quantity, for ſhe voided during ſome weeks, more than two hundred pounds of water every four and twenty hours. With this notable example I will put an end to the experiments I have urged

ged to prove and explicate the attraction which is made of aire, by hot and ignited bodies, which are of the nature of fire.

My fixth Principle ſhall be, that when fire, or ſome hot body attracts the aire, and that which is within the aire, if it happens that within that aire there be found ſome diſperſed atomes of the ſame nature with the body which draws them, the attraction of ſuch atoms is made more powerfully, then if they were bodies of a different nature, and theſe atoms do ſtay, ſtick, and mingle with more willingneſſe with the body which draws them. The reaſon hereof is the reſemblance and Sympathy they have one with the other. If I ſhould not explicate wherein this reſemblance conſiſted, I ſhould expoſe my ſelf to the ſame cenſure and blame, as that which I taxed at the beginning of my Diſcourſe, touching thoſe who ſpeak but lightly and vulgarly of the Powder of Sympathy, and ſuch marvails of Nature. But when I ſhall have

have cleared that which I contend for by ſuch a reſemblance and conveniency, I hope then you will reſt ſatisfied. I could make you ſee that there are many ſorts of reſemblances which cauſe an union between bodies, but I will content my ſelf to declare here onely three ſignall ones.

The firſt reſemblance ſhall be touching weight, whereby bodies of the ſame degree of heavineſſe do aſſemble together, the reaſon whereof is evident, for if one body were more light, it would poſſeſs an higher ſcituation than the heavier body, as on the contrary, if a body were more weighty, it would deſcend lower than that which is leſſe heavy, but both having the ſame degree of heavineſs, they keep company together *in æquilibrio*, as one may ſee by experience in this pretty example, which ſome curious ſpirits uſe to produce, for to make us underſtand how the four Elements are ſcituated one above the other, according to their weight and heavineſſe. They

uſe to put in a Viall the ſpirit of Wine tinctur'd with red, to repreſent the fire; the ſpirit of Turpentine tinctured with blew, for the air; the ſpirit of water tinctured with green, to repreſent the Element of Water; and to repreſent the Earth, the Powder of ſome ſolid metal enamell'd: you ſee them one upon the other without mixing, and if you ſhake them together by a violent agitation, you ſhall ſee a Chaos, ſuch a confuſion, that it will ſeem there's no particular atomes that belong to any of thoſe bodies, they are ſo hudled pell-mell together. But when this agitation is ceaſed, you ſhall ſee preſently every one of theſe four ſubſtances go to its natural place, calling again, and labouring to unite all their atoms in one diſtinct maſſe, that you ſhall ſee no mixture at all.

The ſecond reſemblance of bodies which draw one another, and unite, is among them which are of the ſame degree of rarity and denſity. The nature and effect of *Quantity*

is,

is to reduce to unity all things which it finds, if there interpoſe not ſome other ſtronger power, (as the differing ſubſtantiall forms, which multiply it) do not hinder. And the reaſon of that is evident, for the eſſence of *Quantity* is a diviſibility, or capacity to be divided, which is as much to ſay, as to make it many; whence it may be inferred that *Quantity* it ſelf is not many, therefore ſhe is of her ſelf, and in her own nature, a continued extenſion: ſeeing then that the nature of *Quantity*, in generall, tends to unity, and continuity, the firſt differences of *Quantity*, which are rarity and denſity, muſt produce the ſame effect of unity and continuity in thoſe bodies which convene in the ſame degree with them. For proof whereof, we find that water doth unite and incorporate it ſelf ſtrongly and eaſily with water, oyle with oyle, the ſpirit of wine with ſpirit of wine; and water and oyle can hardly unite, nor mercury with the ſpirit of wine, and other bodies of differing denſity and tenuity.

The third reſemblance of bodies which unite and keep themſelves ſtrongly together, is that of Figure: I will not ſerve my ſelf here with the ingenious conceit of a great perſonage, who holds that the continuity of bodies reſults from ſome ſmall hookings or claſpings, which keep them together, and are differing in bodies of a differing nature. But not to extend my ſelf too diffuſively in every particularity, I will ſay in groſs, as an apparent thing, that every kind of body affects a particular figure. We ſee it plainly in the ſeverall ſorts of Salt, beat them in a Mortar ſeverally, diſſolve, coagulate, and change them as long as you pleaſe, they come again alwayes to their own naturall figure, after every diſſolution, and coagulation. The ordinary ſalt doth forme it ſelf alwayes into cubes of four-ſquare faces, ſalt of *Nitre* into pillars of ſix faces, *Armoniac* ſalt into *Hexagons* of ſix points, as the ſnow doth, which is ſexangulary, ſalt of Urine into *Pentagones*, whereunto Mr. *Daviſon* attributes the pentagonary figure

gure of every one of thoſe ſtones which were found in the bladder of *Monſieur Pelletier*, to the number of fourſcore; for the ſame immediate efficient cauſe, which is the bladder, had imprinted its action both upon the ſtones, and the ſalt of the Urine. The Diſtillators obſerve, that if they poure upon the dead head of ſome diſtillation, the water which was diſtilled, it imbibes it, and re-unites incontinently, whereas if one would poure any other water of an heterogeneous body, it ſwims on the top, and incorporates with much difficulty. The reaſon is, that the diſtill'd water which ſeems to be an homogeneous body, although it is compoſed of ſmall bodies of diſcrepant figures, as the *Chymiſts* do plainly demonſtrate, and theſe atoms being chaced by the action of fire, out of their own chambers, or beds, which were appropriated unto them by an exact juſtneſſe, when they come back to their ancient habitations, *viz.* to the pores which are left in the dead heads; they accommo-

date

date themselves, and amiably rejoyn and become commensurate together. The same happens when it rains after a long drought; for the earth immediately drinks up the water, which had been drawn up by the Sun, whereas any other strange liquor would enter with some difficulty. Now, that there are differing pores in bodies which seem to be homogeneous, *Monsieur Gassendus* affirms it, and undertakes to prove it by the dissolution of salts of differing natures in common water, and sayes he to this effect; that when you have dissolved common salt, as much as it can bear, if you put onely a scruple more, it will leave it entire in the bottom, as if it were sand, or plaister; nevertheless, it will dissolve a good quantity of Salt of nitre, and though it will touch no more of this salt, it will dissolve as much of Armoniacall salt, and so others of different figures. Insomuch as I have observed elsewhere, we see plainly by the oeconomy of Nature, that bodies of the same figure use to mingle more

strongly,

ſtrongly, and unite themſelves with more facility, which is the reaſon why thoſe that make a ſtrong glue to glue together broken pots of Porcelain, or Cryſtal, or ſuch ſtuff, do alwayes mingle with the glue the powder of that body which they endeavour to reunite: And the Goldſmiths themſelves, when they go about to ſolder together pieces of gold, or of ſilver, they mingle thoſe bodies alwaies in their own duſt.

Having hitherto run through the reaſons and cauſes why bodies of the ſame nature draw one to another with greater facility and force than others, and why they unite with more promptitude, lets now ſee, according to our method, how experience confirmes this diſcourſe; for in naturall things we muſt have our laſt recourſe, to experience. And all reaſoning that is not ſupported ſo, ought to be repudiated, or at leaſt ſuſpected to be illegitimate.

'Tis an ordinary thing, when one finds

finds himself burnt as in the hand, he holds it a good while as near the fire as he can, and by this means the ignited atomes of the fire, and of the hand mingling together, and drawing one another, and the stronger of the two, which are those of the fire, having the mastery, the hand finds it self much eased of the inflammation which it suffered. Tis an ordinary remedy, though a nasty one, that they who have ill breaths hold their mouths open at the mouth of a Privy, as long as they can, and by the reiteration of this remedy, they find themselves cured at last, the greater stink of the Privy drawing unto it, and carrying away the lesse, which is that of the mouth. They who have been pricked, or bit by a Viper, or Soorpion, hold over the bitten, or pricked place, the head of a Viper or Scorpion bruised, and by this meanes the poyson, by a kind of filtration, going on to gaine the heart of the party, returns back to its principles, and so leaves the party well recovered. In time of

common

common contagion, they uſe to carry about them the powder of a toad, and ſometimes a living toad or ſpider ſhut up in a box; or elſe they carry Arſnick, or ſome other venomous ſubſtance, which draws unto it the contagious air, which otherwiſe would infect the party: and the ſame powder of a toad draws unto it the poyſon of a plague-ſoar. The Farcy is a venomous and contagious humour within the body of an horſe; hang a toad about the neck of the horſe, in a little bag, and he will be cured infallibly; the toad, which is the ſtronger poyſon, drawing to it the venome which was within the horſe. Make water to evaporate out of a ſtove, or other room, cloſe ſhut, if there be nothing that draws this vapour, it will ſtick to the walls of the ſtove, and as it cools, it recondenſeth there into water: but if you put a baſon or bucket full of water into any part of the ſtove, it will attract all the vapour which filled the chamber, and ſo doing, no part of the wall will be wetted.

wetted. If you dissolve mercury, which resolving into smoke, doth passe into the recipient, put into the head of the Limbick a little thereof, and all the mercury in the Limbick will gather there, and nothing will passe into the recipient. If you distill the spirit of salt, or of vitriol, or the balsam of Sulphur, and leaving the passage free betwixt the spirit and the dead head whence it issued forth, the spirits will return to the dead head, which being fixt, and not able to mount up, drawes them unto it.

In our Country, and I think 'tis so used here, they use to make provision for all the year of Venison-pasties, at the season that their flesh is best, and most savory, which is in July and August; they bake it in earthen pots, or Rye-crust, after they have well seasoned it with salt and spices, and being cold, they cover it six fingers deep with fresh butter, that the aire may not enter. Nevertheless 'tis observed after all the diligence that one can make, that when the living beasts

beaſts which are of the ſame nature and kind, are in Rut, the fleſh which is in the pot ſmells very rank, and very much changed, having a ſtronger taſte, becauſe of the ſpirits which come at this ſeaſon from the living beaſts, which ſpirits are attracted naturally by the dead fleſh; and then one hath much ado to preſerve it from being quite ſpoiled: but the ſaid ſeaſon being paſſed, there is no danger or difficulty to keep it all the year after.

The wine-merchants obſerve in this Countrey, and every where elſe where there is wine, that during the ſeaſon that the Vines are in flower, the wine which is in the Cellar makes a kind of fermentation, and puſheth forth a little white lee, (which I think they call the mother of the wine) upon the ſurface of the wine, which continueth in a kind of diſorder, untill the flowers of the Vines be fallen, and then this agitation or fermentation being ceaſed, all the wine returns to the ſame ſtate it was in before.

Nor is it lately that this obſervation hath been made, but beſides divers others, who ſpeak hereof, St. *Ephrem* the Syrian in his laſt Will and Teſtament, ſome 1300. yeares ago, reports this very ſame circumſtance of wine, which ſenſibly ſuffers an agitation and fermentation within the veſſel the ſame time that the Vines ſeem to exhale their ſpirits in the Vineyards. He makes uſe of the ſame example in dry onions, which bud in the houſe, when thoſe in the garden begin to come out of the earth, and to embalme the air with their ſpirits; ſhewing thereby by theſe known examples of nature, the communication between living perſons, and the ſouls of the dead. Now, thoſe winy ſpirits that iſſue from the buds and flowers, filling the air, (as the ſpirits of Roſemary uſe to do in *Spain*) are drawn into the veſſels by the connaturall and attractive vertue of the wine within: and theſe new volatil ſpirits entring, do excite the more fixed ſpirits of the wine, and ſo cauſe a fermentation, as if one ſhould poure therein new or ſweet wine: for

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in all fermentations, there is a ſeparation made of the terreſtrial parts from the oily, which come out of the eſſentiall parts, and ſo the lighteſt mount up to the ſuperficies, the heavieſt become Tartarous Lees, which fall to the bottom. But in this ſeaſon, if one be not very carefull to keep the wine in a proper, and temperate place, and keep the Cask full, and well bung'd, and uſe other endeavours, which are ordinary with Wine-Coupers, one runs a hazard to have his wine impaired, or quite ſpoiled, becauſe that the volatil ſpirits comming to evaporate themſelves, they carry away with them the ſpirits of the wine that is barrelled by exciting them, and mingling with them. As in like manner the oyle of Tartar, which *Monſieur Ferrier* made, attracting to it ſelf the volatil ſpirits of Roſes, diffuſed in the air in their ſeaſon, ſuffered ſuch a fermentation, and made every year new attractions of the like ſpirits, in regard of the affinity which this oyle had contracted with thoſe ſpirits at its firſt birth,

birth, whereof it was deprived as the ſeaſon paſſed. And tis for the very ſame reaſon that a table-cloth, or napkin, ſpotted with mulberries, or red wine, is eaſily whitened again at the ſeaſon that the plants do flower; whereas at any other time theſe ſpots can hardly be waſhed away. But tis not onely in *France* and other places, where Vines are near Cellars of wine, that this fermentation happens; in *England*, where we have not Vines enough to make wine, the ſame thing is obſerved, yea and ſome particularities beſides. Although they make no wine in our Country to any conſiderable proportion, yet we have wine there in great abundance, which is brought over by the Merchants: It uſeth to come principally from three places, *viz.* from the *Canaries*, from *Spain*, and from *Gaſcony*. Now theſe Regions being under different degrees and Climates in point of latitude, and conſequently one Country is hotter or colder then the other; or that ſome vegetals grow to maturity

maturity ſooner, it comes to paſſe that the aforeſaid fermentation of our differing wines advanceth it ſelf more or leſſe, according as the Vines whence they proceed do bud and flower in the region where they grow: it being conſentaneous to reaſon, that every ſort of wine attracts more willingly the ſpirits of thoſe Vines whence they come, than of any other.

I cannot forbear but I muſt make ſome digreſſion here, to unfold ſome other effects of nature, which we ſee often, and are not leſſe curious then the moſt principall which we treat of, and will ſeem to be derived from more obſcure cauſes, notwithſtanding in many circumſtances they depend on the ſame principles, and in many much differing, It is touching moles or marks which happen to infants, when their mothers, during the time of their pregnancy, have longed after ſome particular things. To proceed after my accuſtomed manner, I will fall to exemplifie. A Lady of high condition, which many of

this Assembly know, at least by reputation, hath upon her neck the figure of a Mulberry, as exactly as any Painter, or Sculptor can possibly represent one, for it bears not onely the colour, but the just proportion of a Mulberry, and is as it were embossed upon her flesh. The Mother of this Lady being with child, she had a great mind to eate some Mulberries, and her imagination being satisfied, one of them casually fell upon her neck, the sanguine juyce whereof was soon wiped off, and she felt nothing at that time. The child being born, the perfect figure of a Mulberry was seen upon her neck, in the same place where it fell upon the mothers, and every year, in Mulberry-season, this impression, or rather excrescence of flesh did swell, grow big, and itch.

Another maid which had the like mark of a Strawberry, was more incommodated therewith, for it not only itched and was inflamed in Strawberry-season, but it brok like an Impostume, whence issued forth a sharp corrosive

corroſive humour. But a skilfull Surgeon took all away to the very roots, by cauterizing; ſo that ſince that time ſhe never felt any pain or change in that place which did incommodate her ſo much, it being become a ſimple ſcar.

Now then, lets endeavour to penetrate if we can the cauſes and reaſons of theſe marvellous effects. But to go the more hanſomly to work, that within the actions of all our ſenſes, there is a materiall and corporall participation, *viz.* that ſome atomes of the body operate upon the ſenſes, enter into their organs, which ſerve them as funnels, to conduct and carry them to the brain, and to the imagination. This appears evidently in vapours and ſavours. And concerning the hearing, the exterior aire being agitated, doth cauſe a motion within the membrane, or tympane of the ear, which gives the like ſhaking to the hammer which is tyed thereunto, who beating upon his Anvil, cauſes a reciprocall motion in the aire, which is ſhut within the

the crannies of the ear, and this is that which we usually call sound.

Touching the sight, tis evident that the Light reflecting upon the body, enters into the eyes, and cannot avoid, but it must bring with it some emanations of the body whereon it reflects, as we have established in the second Principle.

It remaines now to shew that the like is made within the grosseſt of our senses, which is the Touch or Feeling: For if it be true, as we have shewn, that every body sends forth a continuall emanation of atomes out of it self, it makes much for the assertion of this truth. But to render this truth yet more manifest, and take away all possibility of doubt, I will demonstrate it so evidently to the eye, that every one may make an experience thereof in a quarter of an hour, if he be so curious, yea in a lesse compasse of time.

I believe you know the notable affinity which is betwixt gold and quick-

quick-ſilver ; if mercury toucheth gold it ſticks cloſe unto it, and whitens it in ſuch ſort, that it ſcarce appeareth gold, but ſilver onely ; if you caſt this blanched gold into the fire, the heat chaceth, and drives away the mercury, and the gold returns to its former colour ; but if you do this oftner, the gold calcines, and then you may pound, and reduce it to powder.

Now there is no diſſolvant in the World that can well calcine, and burn the body of gold, but quick-ſilver. I ſpeak of that which is already formed by Nature, without engaging my ſelf to ſpeak of that which is ſpoken of among the ſecrets of Philoſophy. Take then a ſpoonfull of mercury in ſome porcelan, or other diſh, and finger it with one hand, if you have a ring of gold on the other, it will become white, and covered with mercury, though it doth not any way touch it. Moreover, if you put a leaf of gold, or a crown of gold in your mouth, and if you put but one of your toes in a

thing where mercury is, the gold which is in your mouth, though you ſhut up your lips never ſo cloſe, ſhall turn white, and laden with mercury: then if you put this gold into the fire to make the mercury evaporate, and do reiterate the ſame thing, your gold will be calcined, as if you had by amalgation joyned mercury therewith corporally. And all this will yet be done more ſpeedily and effectually, if in lieu of common mercury, you make uſe of mercury of Antimony, which is much hotter, and more penetrating, and though you drive it away by force of fire, it will carry away with it a good quantity of the ſubſtance of the gold; in ſuch ſort, that reiterating often this operation, there will no more gold remain for you to continue your experiments. If then that cold mercury doth ſo penetrate the whole body, we ought not to think it ſtrange, that ſubtile atomes of fruit compoſed of many ignited parts will paſſe with more facility and quickneſſe. I will further make

you

you ſee how ſuch ſpirits and emanations do ſuddenly alſo penetrate ſteel, though it be a ſubſtance ſo compacted, cold and hard, that the ſaid atomes may keep their reſidence there many moneths and years. Within a living body, ſuch as is mans, the intern ſpirits do aid, and contribute much facility to the ſpirits that are without, ſuch as thoſe of fruits are, to make their journey the more eaſie to the brain. The great Architect of Nature in the fabrick of humane body, the maſterpiece of corporall nature, hath placed there ſome interne ſpirits, to ſerve as Centinells to bring their diſcoveries to their Generall, *viz.* to the Imagination, which is as it were the Miſtreſſe of the whole Family, whereby a man may know and underſtand what is done without the Kingdome, within the great world; and that it may ſhun what is noxious, and ſeek after that which is profitable. For theſe Centinells, or intern ſpirits, with all the inhabitants of the ſenſitive organs, are not able

to judge alone : inſomuch, that if the imagination or thought be diſtracted ſtrongly to ſome object, theſe interne ſpirits do not know whether a man hath drunk the wine which he hath ſwallowed, if perchance ſeeing a perſon who comes to ſalute him, he fixeth his eye upon him all the while, or if he liſtens attentively to the aire of ſome melodious ſong, or muſicall inſtrument, for the inward ſpirits bring all their acquiſitions to the imagination ; and if ſhe be not more ſtrongly bent upon another object, ſhe falls a forming certain Ideas and Images, becauſe that the atomes from without being conveyed by theſe interne ſpirits to our imagination, erect there the like edifice, or elſe a model in ſhort reſembling the great body whence they come forth. And if our imagination hath no more uſe of thoſe ſignificative atomes for the preſent, ſhe rangeth them in ſome proper place within her Magazine, which is the memory ; where ſhe can repell, and reſume them when ſhe

plea

pleaſeth. And if there be any object which cauſeth ſome emotions in the imagination, and toucheth her more near than common objects uſe to do, ſhe ſends back her ſentinels, the internall ſpirits, upon the confines, to bring her more particular news. And thence it proceeds that a man being ſurprized by ſome particular man, or other object, who hath already ſome eminent place in his imagination, be it of deſire, or averſion, then that man ſuddenly changeth colour, and becomes red, then pale, then red again at divers times, according as the miniſters, which are thoſe intern ſpirits, do go quick or ſlow towards their object, then they return with their reports to their Miſtreſs, which is the imagination. But beſides theſe paſſages we ſpeak of, which go from the braine to the externall parts of the body, by the miniſtery of the nerves; there is alſo a great road from the brain to the heart, by which the vitall ſpirits do aſcend from the heart to the brain, to be animated, and hereby the imagination ſends

unto the heart, thoſe atomes which ſhe hath received from ſome externall object, and there they make an ebullition betwixt the vitall ſpirits, which according to the intervening atomes, either cauſe a dilatation of the heart, and ſo gladden it, or they do contract it, and ſo ſadden it, and theſe two differing and contrary actions are the firſt generall effects, whence proceed afterwards the particular paſſions, which require not that I purſue them too far in this place, having done it more particularly elſewhere on purpoſe.

Beſides theſe paſſages, which are common to all men and women, there is another that's peculiar onely to females, which is, from the brain to the matrix, whereby it often falls out that ſuch violent vapours mount up to the brain, and thoſe in ſo great a number, that they often hinder the operation of the braine, and of the imagination, cauſing Convulſions and follies, with other ſtrange accidents, and by the ſame channel the

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ſpirits or atomes paſſe with a greater liberty and ſwiftneſſe to the Womb or matrix when the caſe requires.

Now lets conſider how the ſtrong imagination of one man doth marvellouſly act upon another man who hath it more feeble and paſſive. We ſee daily, that if a perſon gape, thoſe who ſee him gaping are excited to do the ſame. If one come perchance to converſe with perſons that are ſubject to exceſſe of laughter, one can hardly forbear laughing, although one doth not know the cauſe why they laugh. If one ſhould enter into a houſe where all the World is ſad, he becomes melancholy, for as one ſaid, *Si vis me flere, dolendum eſt primùm ipſi tibi.* Women and Children being very moiſt and paſſive, are moſt ſuſceptible of this unpleaſing contagion of the imagination. I have known a very melancholy woman, which was ſubject to the diſeaſe called the Mother, and while ſhe continued in that mood, ſhe thought her ſelf poſſeſſed, and

did ſtrange things, which among thoſe that knew not the cauſe, paſſed for ſupernaturall effects, and of one poſſeſſed by the ill ſpirit: ſhe was a perſon of quality, and all this happened, becauſe of the deep reſentment ſhe had for the death of her Husband: ſhe had attending her four or five young Gentlewomen, whereof ſome were her Kinſwomen, and others ſerved her as Chambermaids. All theſe came to be poſſeſſed as ſhe was, and did prodigious actions. Theſe young maids were ſeparated from her ſight and communication, and as they had not yet contracted ſuch profound roots of the evill, they came to be all cured by their abſence; and this Lady was alſo cured afterwards by a Phyſician, which purged the atrabilious humors, and reſtored her matrix to its former eſtate: there was neither impoſture, or diſſimulation in this.

I could make a notable recitall of ſuch paſſions that happened to the Nunnes at *London*; but having done it

it in a particular Diſcourſe at my return from that Country, where I, as exactly as I could, diſcuſſed the point, I will forbear ſpeaking thereof at this time, otherwiſe then to pray you to remember, that when two Lutes, or two Harps, near one another, both ſet to the ſame tune, if you touch the ſtrings of the one, the other conſonant Harp will ſound at the ſame time, though no body touch it, whereof *Galileo* hath ingeniouſly rendred the reaſon.

Now, to make application to our purpoſe of all that hath been produced to this effect, I ſay that ſince it is impoſſible that two ſeverall perſons ſhould be ſo near one another, as the mother and the infant when he lies-in the womb, one may thence conclude, That all the effects of a ſtrong and vehement imagination, working upon another more feeble, paſſive, and tender, ought to be more efficacious in the mother acting upon her ſon, then when the imaginations of other perſons act

upon them who are nothing to them. And as it is impoſſible that a Maſter of Muſick, let him be never ſo expert and exact, can tune ſo perfectly any two Harps, as the great Maſter of the Univerſe doth the two bodies of the Mother and the Infant; ſo it follows by conſequence, that the concuſſion of the principall ſtring of the mother, which is the imagination, ought to produce a greater ſhaking of the conſonant ſtring in the infant, to wit, his imagination, then the ſtring of a Lute being touched, upon the conſonant ſtrings of another: and when the mother ſends ſpirits to ſome parts of her body, the like muſt be ſent to ſome part of the childs body.

Now lets call to memory how the imagination of the mother is full of corporall atoms, which come from the Mulberry, or Strawberry, which fell upon the neck, and breaſt, and her imagination being then ſurprized with an emotion by the ſuddenneſs of the accident, it follows neceſſarily that ſhe muſt ſend ſome of

theſe

theſe atomes alſo to the brain of the infant, and ſo to the ſame part of the body where ſhe took the ſtain firſt, 'twixt which and the braine there paſſe ſuch frequent and ſpeedy meſſengers, as we have formerly ſet forth. The infant alſo on his part, who hath his parts alſo tuned in an harmonious conſonance with the mothers, cannot faile to obſerve the ſame movement of ſpirits 'twixt his imagination and his neck, and his breaſt, as the mother did 'twixt hers: and theſe ſpirits being accompanied with atoms of the Mulberry, which the mother conveyed to his imagination, thy make a profound impreſſion, and laſting mark, upon his delicate skin, whereas that of the mothers was more hard. As if one ſhould let fly a Piſtol charged with powder onely againſt a Marble, the powder doth nothing but ſully it a little, which may quickly be rub'd off: But if one ſhould diſcharge ſuch a Piſtol at a mans face, the grains of the powder would pierce the skin, and ſo ſtick and dwell there all his life-time, and

make

make themſelves known by their black-blewiſh colour, which they alwayes conſerve.

In like manner the ſmall grains or atomes of the fruit which paſſed from the mothers neck to the imagination of the infant, and thence to the ſame place upon his skin, do lodge, and continually dwell there for the future, and ſerve as a ſource to draw the atomes of the like fruit diſperſed in the aire, according to their ſeaſon, (as the wine in the Tunne, draws unto it the volatil ſpirits of the Vines) and in drawing of them that part of the skin where they reſide ferments, ſwells, eats, and inflames, and ſometimes breaks. But to render yet more conſiderable theſe marvellous marks of Longing, (ſince we are upon this ſubject) I cannot forbear to touch alſo another circumſtance, which might ſeem at firſt to be a miracle of nature, beyond the cauſes which I have alledged: but having well eventilated it, we ſhall abſolutly find that it depends upon the ſame principles:

It

It is, that oftentimes it falls out, that the impreſſion of the thing deſired, or longed for by the mother, falls upon the child, although ſhe touch it not, or that it falls upon her body; Tis ſufficient that ſome other thing do fall, or unexpectedly beat upon ſome part of the woman with child, while ſuch a longing doth predominate in her imagination, and the figure of the thing ſo long deſired after, will be found at laſt imprinted upon the ſame part of the body of the Infant, as it was upon the mother who received the blow. The reaſon hereof is, that the atomes of the thing longed for being raiſed up by the light, go to the brain of the mother with child through the channel of the eyes, as well as other more materiall atomes, proceeding from the corporall touch, would go thither by the guidance of the nerves. And of theſe petty bodies; the mother forms in her imagination a complete model of that whence they flow forth by way of emanation. But if the women be not attached but inwardly, theſe

theſe atomes which are in her imagination, make no other voyage than to her heart, and thence to the imagination, and to the heart of the Infant, and ſo cauſe a re-inforcement of the paſſion in them both, which may be moved to ſuch a violent impetuoſity, that if the mother doth not enjoy her longd-for object, this paſſion may cauſe the deſtruction both of the one and of the other, at leaſt prejudice them notably in their health, and ſo make a great change in their bodys. In the mean time, if ſome unlooked-for blow ſurprize the mother in any part of her body, the ſpirits which reſide in the brain are immediately ſent thither by her imagination, as it happens often in this caſe of longing. But in all other ſuch ſudden ſurprizals, either among women or men, theſe ſpirits are tranſported with the more impetuoſity, the more the paſſion is violent. As when one loves another paſſionately, he runnes ſuddenly to the dore when any knocks, or that — *Hylax in limine latrat*, hoping

hoping alwayes tis the party which entirely poſſeſſed his thoughts, (for *qui amant ipſi ſibi ſomnia fingunt*) who comes to give him viſit: And theſe ſpirits being moved by this ſudden aſſault, being then mingled with the petty bodies or atomes of the longd-for thing which poſſeſſeth ſo powerfully the fantaſie, they lead them along with themſelves to the part of the body which is ſtruck, as alſo to the ſame part of the body of the Infant, as well as to his imagination. And afterward all that which happened is but the ſame thing as well to the mother as the child, as when the Mulberry or Strawberry fell upon the neck or breaſt of the Ladies with whom I have entertained you.

Permit me, my Lords, to enlarge my digreſſion a little further in one word, to declare unto you a marvellous accident, known all over the Court of England, in confirmation of the activity and impreſſion which the imagination of the Mother makes upon the body of the Infant whereof ſhe was big. A Lady that

was

was my Kinſwoman, (ſhe was the Neece of Madam *Forteſcu*, the Daughter of Count *Arundel*) came to viſit me ſometimes in *London*; ſhe was fair, and of a good feature, and ſhe knew it well, taking great complacency, and not onely to keep her ſelf ſo, but to adde that which ſhe could further: thereupon ſhe was perſwaded that the patches and flies which ſhe put upon her face, gave her a great deal of ornament, therefore ſhe was carefull to wear the moſt curious ſort of them: but as it is very hard to keep a moderation in things which depend more upon *Opinion* than *Nature*, ſhe wore them in exceſſe, and patched moſt of her face with them; although that did not much adde to her beauty, which I took the liberty to tell her; yet I thought it no opportunity then to do any thing that might give her the leaſt diſtate, ſince with ſo much civility and ſweetneſſe ſhe came to viſit me. Nevertheleſſe, one day I thought good, in a kind of drolling way, (ſo that ſhe might not ap-

apprehend any diſcontentment) and *Ridentem dicere verum quis vetat?* to tell her of it; ſo I let fall my diſcourſe upon her big belly, adviſing her to have a care of her health, whereof ſhe was ſomewhat negligent, according to the cuſtome of young vigorous women, who know not yet what it is to be ſubject to indiſpoſitions; ſhe gently thanked me for my care herein, telling me, ſhe knew no extraordinary thing ſhe ought to do for her health, ſeeing ſhe was well notwithſtanding her bigneſs: you ſhould at leaſt, replyed I, have a care of your child, O for that, ſaid ſhe, there is nothing that can be contributed more. Yet, I told her, ſee how many patches you wear upon your face, are you not afraid that the Infant in your Womb may haply be born with ſuch marks on his face? But ſaid ſhe, What danger is there that my child ſhould have ſuch ſpots, though I wear flyes? Then you have not heard, replyed I again, the marvellous effects that the imaginations

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of Mothers work upon the bodies of their children, while they are yet big with them, therefore I will relate unto you ſome of them; and ſo I told her ſundry ſtories upon this ſubject, as that of the Queen of *Ethiopia*, who was delivered of a white boy, which was attributed to a Picture of the Bleſſed Virgin, which ſhe had alwayes near the Teaſter of her bed, whereunto ſhe bore great devotion. I urged another of a woman who was brought to bed of a child all hairy, becauſe of a portrait of Saint John Baptiſt in the Wilderneſſe, where he wore a Coat of Cammels hair. I related unto her alſo the ſtrange antipathy which the late King *James* had to a naked ſword, whereof the cauſe was aſcribed, in regard ſome *Scotch* Lords had entred once violently into the bed-chamber of the Queen his mother, while ſhe was with child of him, where her Secretary, an *Italian*, was diſpatching ſome letters for her, whom they hacked, and killed with naked ſwords before her

her face, and threw him at her feet; and they grew ſo barbarous, that there wanted but little but that they had hurt the Queen her ſelf, who endeavouring to ſave her Secretary, by interpoſing herſelf, had her skin raſed in divers places; which *Buchanan* himſelf makes mention of. Hence it came that her ſon King *James* had ſuch an averſion all his life-time after to a naked ſword, that he could not ſee one without a great emotion of his ſpirits; although otherwiſe couragious enough, yet he could never overmaſter his paſſions in this particular. I remember when he dubbed me Knight, in the ceremony of puting the point of a naked ſword upon my ſhoulder, he could not endure to look upon it, but turned his face another way, inſomuch, that in lieu of touching my ſhoulder, he had almoſt thruſt the point into my eyes, had not the Duke of *Buckingham* guided his hand aright.

I alledged her divers ſuch ſtories to make her apprehend that a ſtrong imagination of the mother might cauſe ſome notable impreſſion upon the body of her child to its prejudice. Moreover, I pray conſider how carefull you are of your patches, and that you have them continually in your imagination; for, I have obſerved, that you have looked upon them ten times ſince you came into this room, in the Looking-glaſs. Doe you not therefore feare that your child may be born with Half-moons upon his face? or rather that all the black patches which you bear up and down in ſmall portions, may aſſemble in one, and appeare in the middle of its forehead, the moſt apparent and remarkable part of the viſage, and may be as broad as a Jacobus; and then what a grace do you think, would it be to the child? O me, ſaid ſhe, rather then that ſhould happen, I would wear no more patches while I am with child: Thereupon at that inſtant ſhe pulled them all off,

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and hurld them away. When her friends ſaw her afterwards without patches, they demanded how it came to paſſe, that ſhe who was eſteemed to be one of the moſt curious beauties of the Court, in point of patches, ſhould ſo ſuddenly give over the wearing of them: ſhe anſwered, that her Uncle, in whom ſhe had a great deal of confidence, aſſured her, that if ſhe wore them during the time that ſhe was with child, the Infant would have a large black patch in the midſt of his forehead. Now, this conceit was ſo lively engraven in her imagination, that ſhe could not be rid of it: And ſo this poor Lady, who was ſo fearfull that her child might not bear ſome black mark in his face, ſhe could not prevent, but that it came ſo into the World, and had a ſpot as large as a Crown of Gold in the midſt of its Forehead, according as ſhe had before figured in her Imagination: it was a Daughter that ſhe brought forth, very beautifull throughout, this excepted. And

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tis but few moneths ago that I saw her bearing the said mole or spot, which proceeded from the force of the imagination of her Mother.

I need not tell you of your neighbour of *Carcassona*, who lately was brought to bed of a prodigious Monster, exactly resembling an Ape, which she took pleasure to look upon during the time she was with child, for I conceave you know the story better then I. Nor that of the woman of St. *Maxient*, who could not forbeare going to see an unfortunate Childe of a poore woman, which was borne without armes; and she her self was delivered afterwards of such a Monster; who nevertheless had some small excrescencies of flesh upon the shoulders, about the place whence the armes should have come forth. As also of her who was desirous to see the execution of a Criminall, who had his neck broken according to the Laws of *France*, whereof she took

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an affrightment, which made ſo deep a print upon her imagination, that preſently ſhe fell in labour of her child, and before they could carry her to her lodging, ſhe was brought to bed before her time of a child which had his head ſevered from his body, both the parts yet ſhedding freſh blood, beſides that which was abundantly ſhed in the Womb, as if the Heads-man had done an execution alſo upon the tender young body within the matrix of the Mother. Theſe three Examples, and many others truly alledged, which I could produce, although they manifeſtly prove the ſtrength of the Imagination, would engage me too far, if I ſhould undertake to cleer the cauſes, and unwrap the difficulties which would be found greater then in any of thoſe inſtances wherewith I have entertained you, becauſe that thoſe ſpirits had the power to cauſe ſuch eſſential changes, and fearfull effects, upon bodies that were already brought to their ſhapes of perfection,

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and it may be well believed, that in ſome of them there was a tranſmutation of one ſpecies to another, and the introduction of a new informing form in the ſubject matter, totally differing from that which had been introduced at firſt, at leaſt if that be true which moſt Naturaliſts tell us of, at the animation of the Embryo in the womb: but this digreſſion hath been already too long.

Eſt modus in rebus, ſunt certi denique fines,
Quos ultra citraque nequit conſiſtere rectum.

To return then to the great channel, and thread of our Diſcouſe, the examples and experiments which I have already inſiſted upon in confirmation of the reaſons which I have alledged, do clearly demonſtrate, that the bodies which draw the atomes diſperſed in the aire, attract unto themſelves with a greater power and energy ſuch as are of their own nature, then ſuch as are heterogeneous, and of a ſtrange nature; As wine doth the vinall ſpirits; The oyl

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of Tartar fermented by the levain of Roſes, the volatil ſpirits of the roſe; the fleſh of deer, or veniſon buried in cruſt, the ſpirits of thoſe beaſts; and conſequently all the other things whereof I have ſpoken.

The Hiſtory of the Tarantula in the Kingdome of Naples is very famous; you know how the venome of this animal aſcending by the hurt that the party hath received, being pricked therewith towards the head and the heart, doth excite in his Imagination an impetuous deſire to heare ſome melodious aires, and moſt commonly they are delighted with differing aires; Therefore when they liſten to an aire that pleaſeth them, they begin to dance inceſſantly, and thereby they fall a ſweating in abundance, in ſuch ſort that this ſweat makes a great part of the venome to evaporate, beſides the ſound of the muſick doth raiſe motion, and cauſeth an agitation among the aeriall and vaporous ſpirits which are in the braine, and about the heart, and diffuſed up and

down through the whole body proportionably according to the nature and cadence of such musick; as when *Timotheus* transported *Alexander* the Great with such a vehemency to such and such passions as he pleased; In the like manner also it happens, that when one Lute doth sound, it makes the strings of the other to shake by the motions and tremblings which it causeth in the aire, though it be not touched otherwise at all. We finde also oftentimes that the sounds which are no other things than the motions of the aire, cause the like motion in the water; as the sharp sound which is caused by rubbing hard with ones finger the brim of a glasse full of water; doth excite a noise, a turning, and bounding in the water of certaine drops as if the water did dance according to the cadence of the sound: The harmonious sound also of bells in those Countreys where they use to ring to particular tunes doth make the like impression upon the superficies of the rivers that are nigh the steeple

ſteeple, eſpecially in the night-time when there is no other motion, which ſtops or choaks the ſame. For the aire being contiguous, or rather continuous with the water, and the water being ſuſceptible of motion, there's the like motion cauſed in the fluid parts of the water as began in the aire, and the ſame contact which is betwixt the agitated aire, and the water which is by this meanes alſo moved, happens alſo to be betwixt the agitated aire, and the vapourous ſpirits which are in thoſe bodies who have been bit by the Tarantula, which ſpirits by conſequence are moved by the agitated air, that is to ſay, by the ſound; and that the more efficaciouſly, as this agitation or ſound is proportioned to the nature and temperature of the party hurt: And this interne agitation of the ſpirits and vapours helps them to diſcharge the vapourous venome of the Tarantula which is mixed among all their humours; In the like manner ſtanding puddle waters, and corrupted aires being

putrified by long repoſe, and the mixture of other noyſome ſubſtances are refin'd and purified by motion; but winter approaching, which devoures theſe beaſts, people are freed from this malady; but at the return of the ſeaſon when they were pricked, the miſchief comes againe, and they muſt dance again as they did the yeare before: The reaſon is, that the heat of ſummer doth ſtir and raiſe up the venome of the beaſt, whereby it becomes as malignant and furious as it was before; And the poyſon being heated, and evaporating it ſelfe, and diſperſing in the aire the levaine of the ſame poyſon, which remaines in the bodies of them who have been hurt, drawes it unto it ſelfe, whereby ſuch a fermentation is wrought, which infects the other humours, whence a kind of ſmoke iſſuing, and mounting to the brains of theſe poor ſick bodies, doth uſe to produce ſuch ſtrange effects.

It is alſo well known, that where there are great dogs, or maſtiffs, as

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in England, if any be bitten perchance by any of theſe doggs, they commonly uſe to kill them, though they be not mad, for feare that the levain of the canine choler which remaines within the body of the party bit draw unto it the malignant ſpirits of the ſame dogg, which might come to diſtemper the ſpirits of the party: and this is not onely practiſed in England, where there are ſuch dangerous dogs, but alſo in France, according to the report of Father *Cheron*, Provinciall of the *Carmelites* in this Countrey, in his *Examen de la Theologie myſtique*, newly imprinted, and which I have lately read. I will ſay nothing of artificiall noſes, that are made of the fleſh of other men, for remedy of the deformity of thoſe who by an extreme exceſſe of cold have loſt their own; which new noſes do putrifie as ſoone as thoſe perſons out of whoſe ſubſtance they were taken come to die, as if that ſmall parcell of fleſh engrafted upon the face did live by the ſpirits it drew from its firſt root and ſource;

For although this be constantly avouched by considerable authors, yet I will nor insist more upon it, and desire you to think that I offer nothing unto you which is not verified by solid tradition, such, as it were a weakenesse to doubt of it.

But it is high time that I should come now to my seventh and last Principle; it is the last turne of the engine, and as I hope will quite batter down the gate which hinders us an entrance to the knowledge of this so marvellous a mystery, and which will imprint such a legitimate mark upon the doctrine which I hold forth, that it will passe for currant money. This principle is, that the source of these spirits, or the body which attracts them to it selfe, draws likewise after them that which accompanies them, as also that which sticks, and is glued, and united unto them. This conclusion needes not much proofe, being evident enough of it selfe, if there be nailes, pinns or ribands tied to the end of a long cord or chaine, and if there be a

knurle

knurle either of wax, gumme, or glue, and that I take this cord or chaine by one end, and draw it after me, untill the other laſt end come to my hands, it cannot be otherwiſe but that I take into my hands at the ſame time the naile, the pins, the ribands, the knurle, and all that is applied thereunto: I will therefore relate unto you onely ſome experiments that have been made in conſequence of this principle, which will moſt ſtrongly confirm the others produced before.

The great fertility, and riches of England, conſiſts chiefly in Paſturage for the nouriſhment of beaſts. We have the faireſt in the world, with abundance of other animals, and principally of Oxen and Cowes. There's not the meaneſt Cottager but hath a Cow to furniſh his family with milk. It is the principall ſuſtenance of the poorer ſort of people, as it is alſo in Switzerland, which makes them very carefull in the good keeping, and health of their Cowes; Now, if it happen that in boyling the milk it

ſwells ſo high that it ſheds over the brim of the skillet, and ſo comes to fall into the fire, the good woman, or maid, doth preſently give over whatſoever ſhe is doing, and runnes to the skillet, which ſhe takes off the fire, and at the ſame time takes a handfull of ſalt, which uſeth to be commonly in the corner of the chimney to keep it dry, and throwes it upon the cinders whereon the milk was ſhed: Ask her wherefore ſhe doth ſo, and ſhe will tell you, that it is to prevent, that the Cow which gave this milk may not have ſome hurt upon her udder, for without this remedy it would come to be hard and ulcerated, and ſhe would come to piſs blood, and ſo be in danger to die; Not that this extremity will befall her the very firſt time, but ſhe will grow ill-diſpoſed, and if this ſhould happen often, would in a ſhort time miſcarry. It might ſeeme that ſome ſuperſtition or folly may lie herein, but the infallibility of the effect doth warrant from the laſt; and for the firſt many believe that

that the malady of the Cow is ſupernaturall, or an effect of ſorcery, and conſequently that the remedy which I have alledged is ſuperſtitious; but it is eaſie to diſabuſe any man of this perſwaſion, by declaring how the buſineſſe goes according to the foundations which I have laid; The milk falling from the burning coales is converted to vapour, which diſperſeth, and filtereth it ſelf through the circumambient aire, where it meets the light, and the ſolar rayes, which tranſport it further, augmenting and extending ſtill farther the ſphere of its activity: This vapour of the milk is not alone or ſingle, but is compoſed of fiery atomes which accompany the ſmoke and vapour of the milk, which mingle and unite themſelves therewith; now the ſphere of the ſaid vapour extending it ſelfe unto the place where the cow is, her udder, which is the ſource whence the milk proceeded, attracts unto it the ſaid malignant vapour, ſtaying, and ſticking it ſelfe there-

together with the fiery atomes that accompanied it. The udder is in part glandulous, and very tender, and so consequently very subject to inflammations, and this fire doth heat, inflame, and make it swell, and in fine makes it hard and ulcerated; The inflamed and ulcerated udder is near the bladder, which comes likewise to be inflamed, making the anastomoses, and communication which is betwixt the veines and the arteries to open, and to cast forth blood, and to regorge into the bladder, whence ordinarily the urine useth to come forth and empty it self: But whence comes it, you will say, that the salt remedies all this? It is because it is of a nature clean contrary to the fire, the one being hot and volatile, the other cold and fixed; Insomuch that where they use to meet, the salt as it were, knocks down the fire; by precipitating and destroying its action, as it may be observed in a very ordinary accident; The chimneys which are full of soot use to take fire very ea-

easily, now, the usuall remedy for that is to discharge a Musket into the funnel of the Chimney which loosneth and brings down with it the fired soot, and then the disorder ceaseth; but if there be no Musket or Pistol, or other instrument to draw down the soot, they use to cast a great quantity of salt on the fire below, and that choaks, and hindreth the atomes of fire, which otherwise would incessantly mount up, and joyn with them above, which by this means wanting nouriture consume themselves, and come to nothing; The same thing befalls the atomes which are in a train to accompany the vapour of the milk, for the salt doth precipitate and kill it upon the very place, and if any do chance to scape, and save themselves by the great struglings they make, and go along with the said vapour, they are nevertheless accompanied with the atomes and spirit of the salt which sticks unto them, which like good wrastlers never leave their hold until they have got the better of their adversary

versary: And you shall observe by the by, that there is not a more excellent balme for a burne, than the spirit of salt in a moderate quantity. It is then apparent, that it is impossible to employ any meanes more efficacious to hinder the ill effects of the fire upon the udder of the Cow, than to cast upon her milk, being shed over upon the cinders, a sufficient quantity of salt. This effect touching the conservation of the Cowes udder in case of burning of her milke, makes me call to minde that which divers have told me to have seen both in France and England, *viz.* when the Physitians do examine the milk of a nurse for the child of a person of quality, they use to make proofes sundry wayes before they come to judge definitively of the goodnesse thereof, as by the taste, by the smell, the colour, and consistence there-

And sometime they cause it to 'ed untill it come to an eva- and see its residence, with nts and circumstances, learnt and discerned by

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by theſe means : But thoſe of whoſe milk this laſt experiment hath been made, feel themſelves tormented in their papps and duggs, while their milk is a boyling ; therefore having once endured this pain, they will never conſent that their milk ſhall be carried away out of their ſight and preſence, although they will willingly ſubmit to any other proof than that by fire. Now to confirm this experiment of the attraction which the Cowes Udder makes of the fire, and vapour of the burned milk, I am going to declare unto you another of the ſame nature, whereof I my ſelf have ſeen the truth more than once, and whereof any one may eaſily make tryal. Take the excrements of a dog, and hurle it into the fire more than once, at the beginning you ſhall find him heated, and moved, but in ſhort time you ſhall ſee him as if he were burned all over, panting, and ſtretching out his Tongue, as if he had run a long courſe : Now, this alteration befalls him becauſe his Entrailes drawing

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unto them the vapour of the burn'd excrement, and with that vapour the atomes of fire which did accompany it, they are ſo changed and inflam'd, that the dog having alwayes a Fever upon him, and not being able to take any nourishment, his flanks do lock up, which cauſeth his death at laſt. It were not proper to divulge this experience among ſuch perſons as are ſubject to make uſe of any thing for doing of miſchief, for the ſame effects which happen to beaſts, would fall upon mens bodies, if one ſhould try ſuch a concluſion upon their excrements: There happened a remarkable thing to this purpoſe to a neighbour of mine in *England* the laſt time he ſojourned there: He had a very pretty and delicate child, and becauſe he would have his eyes alwayes upon him, he entertained the Nurſe at his houſe, I ſaw him often, for he was a man much verſed in buſineſſe, and I had occaſion to uſe ſuch a man: One day I found him very ſad, and his wife a weeping, whereof demanding the reaſon,

reaſon, they told me that their little child was very ill, and that he had a Burning-fever, which inflamed all his body over, which appeared by the redneſſe of his face, that he forced himſelf to go to ſtool, but he could do little, and that little which he did was covered with blood, and that he refuſed alſo to ſuck; And that which troubled them moſt, was that they could not conjecture any cauſe how this indiſpoſition ſhould befall him, for his nurſe was very well, her milk was as good as could be wiſhed, and in all other things there was as much care had of him as could be; I told them that the laſt time I was with them, I obſerved one particularity whereof I thought fit to give them notice, but ſomething or other ſtill diverted me, It was, that their child making a ſigne that he was deſirous to be ſet on his feet, he let fall his excrements on the ground, and his nurſe preſently took the Fire-ſhovel, and covered it with Embers, and then threw all into the fire, the mother began to

make

make her excuſes, that they were not ſo carefull to correct this ill habit of the child, ſaying, that as he advanced in years, he ſhould be corrected for it; I replyed, that twas not for this conſideration that I held this diſcourſe with her, but I was curious to know the reaſon of her childs diſtemper, and conſequently to find ſome remedy; and thereupon I related unto them the like accident, which had happened two or three years before to a child of one of the moſt illuſtrious Magiſtrates of the Parliament of *Paris*, who was bred up in the houſe of a Doctor of Phyſick, of great reputation in the ſame Town: I told them alſo what I have now related unto you touching the excrements of dogs; and I made reflections unto them upon that which they had often heard, and which is often practiſed in our Country, which is, that within the Villages, which are alwayes dirty in the Winter, if it happens that there be a Farmer who is more cleanly than others, and keeps more neatly the

approaches to his houſe than his neighbours do, the boyes uſe to come thither in the night-time, or when it begins to be dark, to diſcharge their bellies there, becauſe that in ſuch Villages there is not much commodity of eaſements; beſides that in ſuch places, ſo fitly accommodated, theſe gallants, the boyes, are out of danger to ſink into the dirt, which otherwiſe might riſe up higher then their ſhooes; but the good Houſwifes in the morning when they open their doors, uſe to find ſuch an ill-favoured ſmell, that it tranſports them with choler: but they who are acquainted with this trick go preſently and make red-hot a broach or fire-ſhovel, and then thruſt it into the excrements all hot, and when it grows cold, they heat it again oftentimes to the ſame purpoſe: In the mean time the boy which made the ordure feels a kind of pain and Collick in his bowels, with an inflammation in his fundament, and a continuall deſire to go to ſtool, and he is hardly quit of it till

till he ſuffer a kind of Fever all that day, which is the cauſe that he returns thither no more: And theſe women to be freed from the like affronts do paſſe among the Ignorant for Sorcereſſes, and Witches, being they can torment people in that faſhion without ſeeing or touching them. This Gentleman did not diſallow what I told him, but was confirmed further when I bid him look into the Fundament of his child, for without doubt he would finde it very red, and inflamed; and that if he looked, he ſhould find that it was full of pimples, and excoriated; It was not long after that this poor little languiſhing child with much pain and pitifull cryes, voyded ſome ſmall matter, which inſtead of ſuffering it to be caſt into the fire, or covered with Embers, I cauſed to be put into a Baſon of cold water which was ſet in a freſh place, which was continued to be done every time

time that the child gave occaſion. He began to amend the very ſame hour, and within four or five dayes he was perfectly well recovered. But fearing to treſpaſſe too much upon your patience; I will entertaine you but with one experiment more very familiar in our Countey; and afterwards I will make a ſummary of all that hath been ſaid, to make you perceive the force, and value of this whole Diſcourſe.

We have in *England* (as I touched before) excellent paſturage, which nouriſh and fat the Cattle ſo abundantly, that it falls out often, that the Oxen have ſo exceſſive ſtore of fat, that it doth extend it ſelf in a great quantity to their leggs, as alſo to their feet, and hoofs, which oftentimes cauſeth Impoſtumes in the bottom of their feet, which ſwell, and caſt out a great deal of filth, and purulent matter, which hindreth the beaſt to go; The Owners are very ſory when they obſerve it, though the beef be never

never the worse for the Shambles, yet are they damnified thereby, in regard that not being able to bring them to *London*, (where the best market is for fat Beefs through all *England*, as *Paris* is for *Auvergne*, *Normandy*, and other Provinces of *France*) I say the Graziers not being able to bring them to *London*, they are constrained to kill them upon the place, where their flesh is not worth half the price that they might have got in *London*. Now there is a remedy for this inconvenience, which is, that one must observe where the Oxe, Cow, or Heifer; doth set upon the Earth his sick foot, the first time that he riseth up in the morning, and in that very place one must cut out a green Turf of that Earth where the beast hath trod with that foot, and put this Turf upon a tree, or upon a hedge lying open to the North wind; and if that wind come to blow upon the Turf of Earth, the beast will be cured within three or four dayes very perfectly;

but

but if one ſhould put that Turf towards the South-wind, or South-weſt (which in *Tholouze* is called *d' Autant*, here in *Montpellier le Marin*, and in *Italy le Scirrocco*) the diſtemper in the Oxe will increaſe. Theſe Circumſtances will not ſeeme ſuperſtitious unto you when you ſhall have conſidered how that by the repoſe of the night the corrupt matter, or core, doth uſe to gather in a great quantity under the foot of the ſick Oxe, and coming in the morning to ſet his foot upon the ground, he preſſeth forth the Impoſtume, the matter whereof ſticks to that part of the Earth, and makes impreſſions upon it: Now this Turf of Earth being put and expoſed in ſome proper place to receive the dry cold blaſts of the Northern winds, the dry cold blaſts of that wind do intermingle with the ſaid corrupted impoſtumated matter, which ſtretching its ſpirits all along the air, the ulcerated foot of the animal, which is the ſource of all, draws them unto it,

and

and with them it attracts alſo the cold dry atomes which cauſe the cure, the malady requiring no other help, then to be well dryed, and refreſhed. But if one ſhould expoſe this turf to a moiſt hottiſh wind, it would produce contrary effects.

Behold, my Lords, all my wheels formed, I confeſſe they are ill fil'd, and poliſhed, but let us try whether being put together, and mounted they will make the Engine go; but if theſe wheeles being well joyned, and placed to draw the concluſion, or this unſhaken Carraque to a good Port, you will, I preſume, have the goodneſſe to pardon the groſſe, and rude expreſſions of my language, and paſſing by the words you will content your ſelves with the naked truth of things. Let us therefore apply that which hath been ſpoken to that which is practis'd when a wounded perſon is cured. Let us conſider Maſter *Howel* wounded upon his hand, and a great inflammation happened upon his breſt, his garter is taken covered with

the

the blood that iſſued from the wound, it is ſteeped in a baſon of water where Vitriol was diſſolved, one keeps the baſon in the day time in a Cloſet, in the moderate heat of the Sun, and at night in the Chimney corner, in ſuch ſort that the blood which is upon the garter may be alwayes in a good natural temperament, neither colder, nor hotter than in the degree required for a healthful body, what ought then to reſult, (according to the Doctrine that we endeavour to eſtabliſh) from all this! In the firſt place the Sun, and the Light will attract from a great extent and diſtance the ſpirits of the blood which are upon the garter, and the moderate heat of the Hearth, which acts gently upon the compoſition (which comes to the ſame thing, as if one ſhould carry it dry in his pocket to make it feel the temperate heat of the body) I ſay the moderate heat of the hearth doth puſh out the ſaid atomes, as the water which gathers it ſelf round in the filtration or ſtrainings

drives

drives on that which mounts up, to make it go faſter, and more eaſily, making it alſo to dilate it ſelf, and diſtill, and ſo march of themſelves a good way in the air, to help thereby the attraction of the Sun and of the Light.

Secondly, the ſpirit of the Vitriol, being incorporated with the blood, cannot chuſe but make the ſame voyage together with the atomes of the blood. Thirdly, the wounded hand expires, and exhales in the mean time continually abundance of hot fiery ſpirits, which guſh forth as a river out of the inflamed hurt; which cannot be but that the wound muſt conſequently draw unto it the air which is next it. Fourthly, this aire drawes unto it the other air which is next it, and that the next to it alſo, and ſo there is a kind of current of air drawne round about the wound. Fifthly, with this air come to incorporate, at laſt, the aromes and ſpirits of the blood, and of the Vitriol, which were diffuſed and ſhed

a good way off in the aire by the attractions of the light, and of the Sun. Beſides, It may well be that from the beginning, the orbe and ſphere of theſe atomes and ſpirits did extend it ſelfe in ſo great a diſtance without having need of the attractions of the aire, or of the light, to make them come thither. Sixthly, theſe atomes of blood finding the proper ſource, and originall root whence they came, doe ſtay, and ſtick there, and ſo re-enter into their naturall beds, and primitive receptacles, whereas the other aire is but a paſſenger, and evaporates away as ſoon as it comes, even as when it is carried away through the funnell of the chimney, ſo ſoon as it is drawne into the chamber by the doore. Seventhly, the atomes of the blood being joyned inſeparably with the ſpirits of the Vitriol, both the one and the other doe joyntly imbibe together within all the corners, fibres, and orifices of the veines which lye open about the wound of the party hurt,

which hereby are comforted, and in fine imperceptibly cured.

Now to know wherefore ſuch an effect and cure is ſo happily performed, we muſt examine the nature of Vitriol, which is compoſed of two parts, the one fixed, the other volatile. The fixed, which is the ſalt, is ſharpe and biting, and cauſtique in ſome degree. The volatil is ſmooth, ſoft, balſamicall, and aſtringing, and it is for that reaſon that vitrioll is made uſe of as a ſoveraigne remedy in the medicine for the inflammations of the eyes, and when they are corroded, and ſcorched by ſome ſharp and burning humour or defluxion. As alſo in injections where excoriations and ſcaldings uſe to happen, as alſo in the beſt plaiſters to ſtanch the blood, and incarnate the hurt. But they who well know how to draw the ſweet oyle of Vitriol, which is the pure volatil part thereof, know alſo that in the whole cloſet of nature there is no balme like this oyle. For

this

this balme of ſweet oyle doth heale in a very ſhort time all kinde of hurts which are not mortall, it cures and conſolidates the broken veines of the breaſt, as farre as the ulcers of the lungs, which is an incurable malady without this balme. Now it is the volatil part of the Vitriol, which is tranſported by the Sun (the great Diſtiller of Nature) and which by that meanes doth dilate it ſelfe in the aire, and that the wound, or part which received the hurt, drawes and incorporates with the blood, together with its humours and ſpirits. And that being true, we cannot expect a greater effect of the volatil vitriol, but that it ſhould ſhut the veines, ſtanch the blood, and ſo in a ſhort compaſſe of time heale the wound.

The method and primitive manner how to make uſe of this ſympatheticall remedy, was to take onely ſome Vitriol, and that of the common ſort, as it came from the Druggiſts, without any preparation or

addition at all, and to diſſolve it in fountaine water, or rather in raine water, in ſuch a proportion, that putting therein a knife, or ſome poliſhed iron, it ſhould come out changed into the colour of copper: And into this water they did put a clout, or rag of cloth embrued with the blood of the party hurt (the rag being firſt dry,) but if it was yet freſh, and moiſt with the reaking blood, there was no need but to powder it with the ſmall powder of the ſame Vitriol, in ſuch ſort, that the powder might incorporate it ſelf, and imbibe the blood remaining yet humid, and keep both the one and the other in a temperate heat, and place, *viz.* the powder in ones pocket, and the water (which admits not of this commodity) in a chamber where the heat was temperate, and every time that one put new water of vitriol with freſh powder and new cloth, or other bloodied ſtuff, the patient ſhould feel new eaſement as if the wound had been then dreſs'd with ſome ſoveraign medicament. And for this

this reaſon they uſed to reiterate this manner of dreſſing both evening and morning.

But now, the moſt part of thoſe who make uſe of this remedy of the Powder of Sympathy, doe endeavour to have Vitriol of *Rome*, or of *Cyprus*, and calcine it white in the Sun: And beſides, ſome uſe to adde the Gumme of *Tragacanth*: *Facile eſt inventis addere.*

For my part, I have ſeene ſuch great and admirable effects of plaine Vitriol of eighteen pence the pound, as of that Powder which is uſed to be prepared now at a greater price: yet notwithſtanding I doe not blame the preſent practiſe; on the contrary I commend it, for it is founded upon reaſon.

Firſt, it ſeems that the pureſt and beſt ſort of Vitriol doth produce the beſt operation.

Secondly, it ſeemes alſo that the moderate calcining thereof at the rayes of the Sun doth take away the ſuperfluous humidity of the

Vitriol; and this calcination doth not touch any part but that which is good: as if one ſhould boyle broth ſo cleere that it comes to be gelly, which certainly would render it more nouriſhing.

Thirdly, it ſeemes that the expoſing of the Vitriol to the Sun to receive calcination, renders its ſpirits more fitly diſpoſed to be tranſported through the aire by the Sunne when need requires.

For it ought not to be doubted but that ſome part of the æthereall fire of the ſolar rayes doth incorporate with the Vitriol, as it is plainly diſcovered by calcining Antimony with a burning-glaſſe, for it much augments the weight of it almoſt halfe in halfe; and in this caſe the part of that luminous ſubſtance which remaines in the Vitriol, thus is made apt, and diſpoſed to be carryed in the aire by a ſemblable light, and ſolar rayes. As we ſee that to make the tongue of a pumpe draw the water eaſier from the bottome of a well,

well, one doth uſe to caſt a little water from above upon it. Now, the light carrying with it ſo eaſily the ſubſtance that is ſo connaturall to it, carries alſo with the more facility that which is incorporated with it.

Fourthly, theſe Solar rayes being embodied with the Vitriol, are in a poſture to communicate unto it a more excellent vertue than it hath of it ſelfe, as we finde that Antimony calcin'd in the Sun, becomes (whereas it was rank poyſon before) a moſt ſoveraign and balſamical medicament and a moſt excellent ſtrengthner of nature.

Fifthly, The Gumme of Tragacanth, having a glutinous faculty, and being for the reſt very innocent, may contribute ſomething towards the conſolidation of the wound.

My Lords, I could adde unto what is ſpoken many moſt important conſiderations touching the forme and eſſence of Vitriol, whereof the

ſubſtance is ſo noble, and the origen ſo admirable, that one may avouch with good reaſon, that it is one of the moſt excellent bodies which nature hath produced.

The Chymiſts doe aſſure us that it is no other then a corporification of the univerſall ſpirit which animates and perfects all that hath exiſtence in this ſublunary World, which is drawn in that abundance by a Lover ſo appropriated, by meanes whereof I my ſelf have in a ſhort time, by expoſing it onely unto the open aire, made an attraction of a celeſtiall Vitriol ten times more in weight, which was of a marvellous pureneſſe and vertue; a priviledge which hath not been given but to it, and to pure virgin ſalt-peter.

But to anatomiſe as we ought the nature of this tranſcendent individuall, which nevertheleſſe in ſome faſhion may be ſaid to be univerſall, and fundamentall to all bodies, it would require a Diſcourſe farre more ample then I have yet made. But

as

as I perceive I have already entertained you ſo long a time, it would prove a very great indiſcretion to trench further upon your goodneſſe, who have hitherto liſtened unto me with ſo much attention, and patience, if I ſhould go about to enter into any new matter, and embarke my ſelfe for a further voyage. Wherefore remitting divers matters to ſome other time, when you ſhall pleaſe to order me, coming now again to the generall conſideration of this Sympatheticall cure, I will put a period to this Diſcourſe, after that I ſhall have told you two or three words, which will not be of ſmall importance for the confirmation of all which hath beene alledged by me hitherto.

I have deduced unto you the admirable cauſes of the operations, and ſtrange effects of the Powder of Sympathy from their firſt roote. Theſe fundamentall cauſes are ſo enchaining one within the other, that it ſeemes there can be no default, ſtop, or interruption, in their proceed-

ceedings. But we ſhall be the better fortified in the belief of their vertue and efficacy, and how they come to produce the effects of ſo many faire cures, if we conſider that then when ſome change is practiſed in one of theſe cauſes, or in all of them together, we ſee and perceive immediately an effect altogether differing from the former. If I had never ſeene a Watch or Clock, I ſhould be juſtly ſurprized, and ſhould remaine aſtoniſhed to ſee a hand, or a needle ſo regularly mark the journall houres, and motion of the Sun, upon the flat of a Quadrant; and that it ſhould turn, and make its round every four and twenty hours, there being nothing ſeene that ſhould puſh on the ſaid needle: But if I look on the other ſide, I ſee wheels, reſſorts, and counterpoiſes, which are in perpetuall motion; which having well and ſoberly conſidered, I preſently ſuſpect that thoſe wheels are the cauſe of the motion, and turnings of the ſaid Needle, although I cannot preſently diſcerne

or know how thoſe moving wheeles doe cauſe a motion in the needle of the quadrant, becauſe of the plate that lyeth interpoſed betwixt them. Therefore I reaſon thus within my ſelfe; That every effect whatſoever muſt have of pure neceſſity ſome cauſe, and therefore that the body moved there ought neceſſarily to receive its motion from ſome other body which is contiguous to it. Now I ſee no other body which makes the Needle of the quadrant to move and turne, then the ſaid wheeles, therefore I muſt of force be perſwaded to attribute the motion unto them. But afterwards, when I ſhall have ſtopped the motion of thoſe wheeles, and taken away the Counterpoiſe, and obſerved that ſuddenly the Needle ceaſed to move, and that applying againe the Counterpoiſe, and giving liberty for the wheele to turne, the Needle returnes to her ordinary train, or by making one wheele to goe faſter by putting my finger unto it, or by adding

ding more weight to the Counterpoiſe, the needle doth haſten and advance its motions proportionably. Then I grow to be convinced and entirely ſatisfied, and ſo I abſolutely conclude that theſe wheels and counterpoiſes are the true cauſe of the motion of the needle.

In the ſame manner, if interrupting the action of any of thoſe cauſes which I have eſtabliſhed for the true foundation of the Sympatheticall Powder, I alter, retard, or hinder the cure of the wound; I may boldly conclude, that the foreſaid cauſes are the legitimate, and genuine true cauſes of the cure, and that we need not amuſe our ſelves to make indagations for any other.

Let us then examine our buſineſſe by that bias. I have affirmed that the Light tranſporting the atomes of the vitriol, and of the blood, and dilating them to a great extent in the aire, the wound or place hurt, doth attract them, and thereby is immediately ſolac'd and eaſed, and conſequently

quently comes to be healed by the ſpirits of the Vitriol, which is of a Balſamicall virtue. But if you put the Baſon, or Powder with the cloth embrued with blood, within an Armory, or into a corner of ſome cold room, or into a Cave, where the light never comes, nor freſh air, which makes the place corrupted, and to have ill ſmells, in that caſe the wound can receive no amendment, nor any good effect from the ſaid Powder. And it will fall out in the ſame manner, if having put the Baſon, or Powder, in ſome By-corner, and that you cover it with ſome thick, ſtuffing, and ſpongy cloth, which may imbibe the atomes that uſe to come forth, and which retain the light and rayes which enter thereinto, whereby they are ſtopped, and quite loſt. Moreover, if you ſuffer the water of Vitriol to congeale into ice, wherein the cloth is dipped, the party hurt ſhall be ſenſible at the beginning of a very great cold in his wound; but when it is iced all over, he ſhall feel nei-

neither heat nor cold, in regard that congealed coth doth conſtipate the pores of the water, which nevertheleſſe doth not ceaſe to tranſpire, and ſend forth ſpirits. If one ſhould waſh the cloth, ſpotted with blood, in Vinegar, or Lye, (which by their penetrating acrimony tranſport all the ſpirits of the blood) before the Vitriol be applied, it will produce no effect; yet if it be waſhad but with pure ſimple water, it may nevertheleſſe do ſomething, for that water carries not away ſo much; but the effect will not be ſo great, as if the blood-ſpotted piece had not been waſhed at all, for then it is full of the ſpirits of the blood. The ſame cure is performed by applying the remedy to the blade of a ſword which hath wounded the perſon: if it come not to paſſe that the ſword be too much heated by the fire, for then it would make all the ſpirits of the blood to evaporate, and in that caſe the ſword would ſerve but a little to performe the cure. Now the reaſon why the ſword may

be

be dreſſed in order to the cure, is, becauſe the ſubtil ſpirits of blood do penetrate the ſubſtance of the blade, as far as the extent which the ſword made within the body of the wounded party, where they uſe to make their reſidence, there being nothing to chaſe them away, unleſſe it be the fire, as I ſaid before. For experiment whereof, hold it over a Chafing-diſh of moderate fire, and you ſhall diſcern on the ſide oppoſite to the fire a little humidity which reſembleth the ſpots that ones breath makes upon Looking-glaſſes, or upon the burniſhed blade of a ſword: If you look upon it athwart ſome glaſſe which makes the object ſeem bigger, you ſhall find that this ſoft dew of the ſpirits conſiſts in little bubbles, or blown bladders; and when once they are entirely evaporated, you ſhall diſcern no more upon the weapon, unleſſe it were thruſt a new into the body of a living perſon. Nor from the beginning ſhall you diſcover any ſuch thing, but preciſely upon that part of

the blade, which had entred the wound.

This ſubtill penetration of the ſpirits into the hard ſteel, may confirme the belief of the entrance of ſuch ſpirits into the skin of a woman big with child, as I remind to have propoſed unto you in my ſixth Principle remarkable in its owne place. Now then, while the ſpirits lodge in the ſword, they may ſerve as great helps for the cure of the Patient, but when the fire hath driven them all away, the remedy applyed to the ſword will not availe any thing at all. Furthermore, if any violent heat accompanies theſe atomes, it inflames the wound; but common ſalt may remedy that, the humidity of water humectates the hurt, and the cold cauſeth a chilneſs in the party wounded.

To confirm all theſe particulars, I could adde to thoſe I have already related many notable Examples more, but I fear I have already too much exerciſed your patience, therefore I will on purpoſe pretermit the

men-

mentioning of them at this time, but I offer to entertain in particularany of this Honourable Assembly therewith, if they have the curiosity to be informed of them.

I conclude then, *Messieurs*, by representing unto you that all this mystery is guided and governed all along by true naturall wayes and circumstances, although by the agency and resorts of very subtil spirits.

I am perswaded my Discourse hath convincingly shewed you, that in this Sympatheticall cure, there is no need to admit of an action distant from the Patient. I have traced unto you a real Communication twixt the one and the other, *viz.* of a Balsamical substance, which corporally mingleth with the wound.

Now it is a poor kind of pusillanimity and faintnesse of heart, or rather a grosse Ignorance of the Understanding, to pretend any effects of Charme or Magick herein, or to confine all the actions of Nature to the grossenesse of our Senses, when we have not sufficiently considered,

nor

nor examined the true cauſes and principles whereon 'tis fitting we ſhould ground our judgment: we need not have recourſe to a Dæmon or Angel in ſuch difficulties.

Nec Deus interſit, niſi dignus vindice nodus
Inciderit. ———

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Jo. Wallæi *Medica omnia* (*quæ hactenus inveniri poluere*) *ad Chyli & ſanguinis circulationem eleganter concinnata.* 8°.

Gentle-

Gentlemen,

BE pleased to take notice, That those so famous Lozanges or Pectorals approved for the cure of Consumptions, Coughs, Catharrs, Asthma's, Hoarsness, and all other diseases incident to the Lungs, and a soveraign Antidote against the Plague, and all other contagious diseases, and obstructions of the Stomach, are onely made and to be had of Mr. *Edmund Buckworth* at his house in *St. Katherines* street near the Tower, and Mr. *Theophilus Buckworth* on *Mile-end-green*. And for more convenience to those that live remote, quantities of them sealed up with their Coat of Armes are left constantly at the house of Mr. *Richard Lowndes* at the signe of the white Lion neer the little north door of St. *Pauls* Church, Mr. *Henry Seile* over against St. *Dunstans* Church in *Fleet street*, Mr. *H. Herringman* at the Anchor in the New Exchange, Mr. *William Milward* at Westminster-Hall gate, Mr. *John Place* at Furnivals-Inne gate in Holborn, Mr. *Robert Horn* at the Turks head near the entrance of the Royal Exchange, Book-sellers, and no others.